THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

Royal College of Surgeons of England
ADVANCING SURGICAL CARE

The Curriculum Framework for the Surgical Care Practitioner

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Introduction by the Presidents of RCS England and RCS Edinburgh

The Royal College of Surgeons of England (RCS England) and the Royal College of Surgeons of Edinburgh (RCS Edinburgh) began a combined project entitled 'Supporting the Extended Surgical Team' to reflect our commitment to the development of this group of the surgical workforce as their role is vital to the delivery of safe surgical care to patients. The first part of this combined project has been to support the greater recognition of Surgical Care Practitioners (SCPs) with this revision of the curriculum for the MSc degree in surgical care practice as well as seeking formal regulation from the General Medical Council.

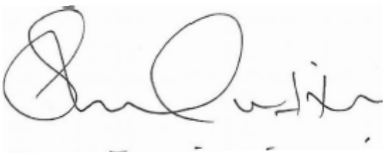
The first edition of the SCP curriculum was published in 2006 and revised in 2014. This revision has been undertaken not only to update the 2014 curriculum but also to meet the General Medical Council's standards for the development and design of postgraduate medical curricula set out in *Excellence by Design*. The focus of this revision has been to promote the development and learning for the trainee SCP based largely in the workplace. The format of the curriculum reflects the clinical pillar of advanced practice with both knowledge and clinical skills as well as technical skills supplemented by case studies and qualitative analysis. It also includes the other three pillars of advanced practice, namely leadership and management, education and research. As a result, the successful SCP will graduate with an MSc in surgical care practice, which will enable the SCP to work in an advanced role within the surgical team.

Both Colleges are totally committed to the inclusion of SCPs in the surgical team as their role is essential to meet the rapidly evolving changes in healthcare, working independently in the surgical team with appropriate supervision, and to complement the team's workload to enable surgical trainees to have greater training opportunities, which are now more important than ever following the major adverse effects of the COVID-19 pandemic.

We are delighted that the curriculum revision has now been published with endorsement of the councils of both Colleges. We are grateful in particular to the higher education institutions who have supported the development of the curriculum and hope that they will be able to use it to ensure high quality training for these highly valued members of the surgical workforce.

The second part of this project is the development of a Managed Voluntary Register (MVR) for SCPs. The MVR provides the opportunity for trainee and practicing SCPs in the UK to demonstrate that they are appropriately qualified, working to the standards expected by the two Colleges and are committed to professional development. The Colleges would strongly encourage SCPs to apply, as collectively these initiatives establish and communicate the standards for the postgraduate education of SCPs. To find out more visit: www.scpregister.org.

Neil Mortensen
RCS England President



Mike Griffin
RCS Edinburgh President

Prologue

The provision of healthcare has progressed considerably since the first SCP curriculum was published in 2006. The *NHS People Plan* (NHS England, 2020) and Health Education England's workforce strategy (HEE, 2017) highlight the need for the qualified allied healthcare professional workforce within the structure of practitioners to provide a safe and high quality service for patients.

In surgery, there has been increasing emphasis on the extended surgical team offering a variety of roles in surgical care. The SCP has become well established in healthcare organisations and has been shown to:

- enhance the capability of the surgical team
- develop professionally within the team
- support and enhance training opportunities for surgical trainees
- provide surgical services that complement the medically trained workforce

The education governance of SCPs has expanded since the first SCP curriculum. In addition, there have been significant changes in the design of curricula following the General Medical Council's publication of *Excellence by Design* (GMC, 2017), which sets the standards for postgraduate medical curricula with inclusion of practice-based outcomes as well as defined clear evidence of practising professionally.

The development of the respective roles of Surgical Advanced Clinical Practitioner (SACP) and SCP to support the surgical patient pathway has been driven by workforce transformation to maintain surgical services in line with changes in the surgical workforce, and the need to maintain safe and high quality patient care. SCPs are trained specifically for the management of the surgical patient with a workplan combining intraoperative practice and perioperative care whereas SACPs are trained to manage both medical and surgical ward care of patients, and to support some of the on-call requirements associated with the Improving Surgical Training initiative and core/early years surgical training. The SCP and the SACP curricula are deliberately designed to share a common stem with appropriate separation in each to reflect the different roles more clearly, both working to an advanced level of practice.

RCS England and RCS Edinburgh wish to ensure that a qualified SCP is educated to a standard approved by the colleges. As a result, this curriculum revision has been undertaken to set the clinical, technical and professional standards expected of a professional practitioner working in this defined role of surgical care. The acquisition of common generic standards in phase 1 of the curriculum will ensure that SCPs achieve a degree of flexibility and consistency across surgical teams and employers.

The training in this curriculum will ensure that trained SCPs will have the necessary capabilities to work in a surgical team under the supervision of a lead consultant surgeon(s). It is expected that as SCPs advance in their career with appropriate professional development, they will work independently within the team. It is acknowledged that in their work, trained SCPs will be accountable and responsible for their own practice (Nursing and Midwifery Council/Health and Care Professions Council code of conduct). The curriculum is designed according to the standards for advanced clinical practice incorporating its four pillars.

Currently, accreditation for an SCP as they progress their practice requires submission of a portfolio of advanced practice in the specialty of choice to the Centre for Advancing Practice. This is normally expected to be within five years of commencement of phase 1 of the curriculum, for those completing the MSc in surgical care practice.

It is clear that as the role has evolved, SCPs undertake a variety of activities defined by the needs of their employing trust. This curriculum has been designed emphasising the needs of the employer and the provision of surgical services. The trained SCP needs a breadth of generic surgical knowledge and clinical skills as well as the technical capabilities to work in the operating theatre team. However, secondary care providers have requirements that reflect their specific services. The more specialty specific components of the respective syllabi have been designed to enable flexibility, meaning they can be tailored for individuals and their employer.

Curriculum for SCP training

Purpose

The purpose of this curriculum is to establish the standard required to work as an SCP and provide guidance for SCPs to develop into competent practitioners capable of delivering high quality outcomes for patients in the UK. The curriculum offers a guide to the education and incremental development of SCPs in both academic and clinical settings to ensure practitioners achieve comparable standards of surgical care through high quality education and training. The clinical capabilities required in practice are consistent with those utilised by surgical trainees, as outlined in the Intercollegiate Surgical Curriculum Programme's *Core Surgical Training Curriculum* (ISCP, 2021), where practice is comparable.

The successful graduate of the curriculum will be awarded an MSc in surgical care practice reflecting assessments to achieve level 7 of higher education.

The curriculum articulates how the surgical patient is at the heart of the SCP's practice with the four pillars of advanced practice linking together to support high quality, safe and effective care that is focused on patient experience. This link is illustrated in Figure 1.

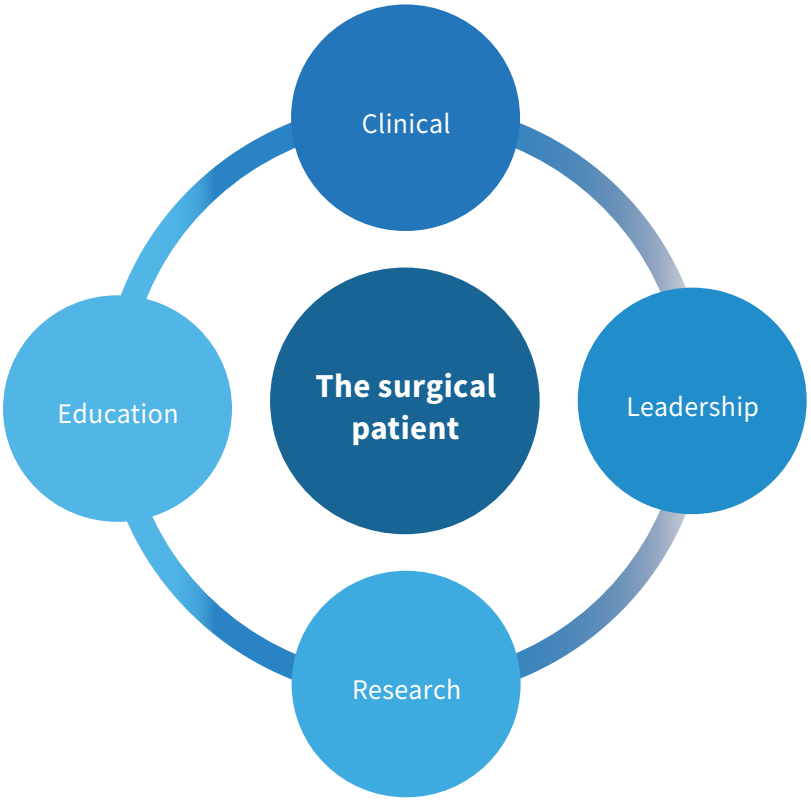


Figure 1 The SCP curriculum structure based on the four pillars of advanced clinical practice

This curriculum has been influenced by the following key documents, which each support the training, education and ongoing development of the SCP:

- Multi-professional Framework for Advanced Clinical Practice in England (HEE, 2017)
- The Code: Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates (NMC, 2018)
- Standards of Conduct, Performance and Ethics (HCPC, 2016)

- Generic Professional Capabilities Framework (GMC, 2017)
- Core Surgical Training Curriculum (ISCP, 2021)
- Higher Education Credit Framework for England: Advice on Academic Credit Arrangements 2nd Edition (QAA, 2021)
- UK Quality Code for Higher Education (UKSCQA and QAA, 2018)
- UK Quality Code for Higher Education Part A: Setting and Maintaining Academic Standards. The Framework for Higher Education Qualifications of UK Degree-Awarding Bodies (QAA, 2014)

Intended audience

This document is intended for:

- those wishing to become an SCP
- those wishing to offer an educational programme leading to an MSc degree in surgical care practice
- patients and the lay public, to offer definitions of this role and the standards required for the education and development of SCPs
- educators in other professions, to provide a detailed framework for the role and education of SCPs
- regulators of the profession of surgery in general and existing regulatory bodies setting the standards and requirements of the SCP programme
- any healthcare provider wishing to employ an SCP
- all those involved in supporting the development of SCPs

This document is the main reference document for the curriculum and assessment framework for the establishment of standards and quality assurance of SCPs within the governance structures of RCS England and RCS Edinburgh. (It is recommended that all nations in the UK introduce and implement these standards.)

Outside the scope of practice of the SCP

The following surgical specialties and activities are outside the scope of this curriculum:

- general paediatrics and neonatal surgery
- obstetrics
- aesthetics
- dental

Curriculum aims

The aim of this curriculum is to provide guidance and support the training of SCPs so they are capable of delivering high quality, safe and effective care for surgical patients. The curriculum supports the achievement of the following aims:

- develop the theoretical knowledge and clinical capabilities of experienced registered non-medical practitioners within specific and specialist areas of surgical care
- develop practitioners who can safely undertake a focused history and utilise clinical reasoning to formulate an appropriate diagnosis and management plan
- develop highly skilled practitioners who can act autonomously in providing care to patients requiring complex assessment and treatment in the setting of a consultant led surgical team
- develop leadership and management skills to support the wider surgical care team
- disseminate evidence-based knowledge to continually enhance surgical services and patient care
- advance and contribute to a culture of organisational learning to inspire existing and future staff

The curriculum design addresses the qualifications, training requirements, knowledge, skills and behaviours required for the SCP role to provide an integrated approach to learning in a workplace-based context.

Scope of practice

It is recognised that the primary responsibility of the SCP will be the management of the surgical inpatient by working in preoperative and postoperative care, the theatre setting and outpatient clinics to provide holistic surgical care for patients. This may also include supporting service delivery on the ward as well as patients presenting as emergencies during the SCP's on call.

The practice of the SCP requires core and specialty knowledge, clinical skills, attitudes and procedural skills to independently manage patients with a wide range of presentations. It involves the integration of both academic and experiential learning to develop competence in a wide range of areas, including:

- clinical history taking, physical examination and diagnostic reasoning
- managing uncertainty
- working within their scope of practice, seeking help when necessary
- managing comorbidities
- recognising deterioration in a patient's condition and escalating to another professional or referring for a specialty opinion (if required)
- developing technical skills in the areas and to the level described in the curriculum
- knowledge of medicines and therapeutics

This list identifies the series of critical skills that are fundamental to patient safety and the demonstration of safe practice. Across surgery, these generic skills lie at the heart of patient assessment and good practice.

Professional behaviours and educational values

Professional standards of conduct and performance are the key professional values and behaviours, knowledge and skills required of all healthcare professionals, and they form essential components of the SCP capabilities. It is expected that professional behaviours will be demonstrated in accordance with regulated professional standards of conduct and performance as outlined in the *NHS Constitution* (DH, 2015), the Nursing and Midwifery Council's code of conduct (NMC, 2018), and the Health and Care Professions Council's standards of conduct, performance and ethics (HCPC, 2016).

The importance of professional behaviours in underpinning good clinical practice is acknowledged in the General Medical Council's *Generic Professional Capabilities Framework* (GMC, 2017). The Academy of Medical Royal Colleges provides a clear, comprehensive framework of professional behaviours required to practise (AoMRC, 2019) and, when demonstrated, this framework provides assurance of ongoing professional behaviours. The framework is applicable to all health and care professionals.

Patient safety

The acquisition of knowledge and skills can be achieved through a variety of teaching and learning approaches. Concurrent with such development must be the development of appropriate clinical judgement. This requires a pedagogical approach that can be mapped to development and ensure patient safety.

Patient safety and competent practice are both essential, and the curriculum has been designed so that the learning experience itself should not affect patient safety. Patient safety is the first priority of training, demonstrated through safety critical content, expected levels of performance, critical progression points, required breadth of experience, and levels of trainer supervision needed for safe and professional practice.

On satisfactory completion of the training programme, SCPs will be expected to be able to work safely and competently in the defined area of practice, and to be capable of managing or mitigating relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through specific high level outcomes, supervision levels, and tailored assessment and feedback, allowing trainee SCPs to progress at their own rate. These principles reflect sound educational theory and are utilised throughout training in healthcare.

Equity, diversity and inclusivity

RCS England and RCS Edinburgh are totally committed to promoting diversity, inclusion and belonging across all surgical professions to support the varied workforce and reflect the communities that the NHS serves. A diverse and inclusive workforce is crucial to developing new ways of thinking, leading to improvement and innovation in the way healthcare is provided. It is vital that all staff and learners are treated fairly, and are enabled to reach their full potential irrespective of their background and beliefs.

Curriculum design

The SCP curriculum design is based on a modular programme leading to an MSc degree in Surgical Care Practice that has the flexibility to enable trainees to join the programme at levels appropriate to their competence and experience. It requires core knowledge and skill but also recognises the need for more specialist surgical knowledge and skill.

The SCP curriculum is based on a phased approach:

- Phase 1 – generic clinical, technical and professional knowledge and skills
- Phase 2 – specialty specific clinical, technical and professional knowledge and skills

The course design is based upon a 3 year course with the recommendation of 1 year for phase 1 and two years for phase 2. The curriculum is designed to enable competence-based rather than time-based progression.

All trainee SCPs will be expected to complete the generic modules in phase 1 before progressing to phase 2 (Table 1). For those whose previous training and experience has included components of phase 1, this may be recognised with a careful gap analysis of their personal portfolio against the content of phase 1. A standardised process for each Higher Education Institution (HEI) will be followed for recognition of prior learning where a panel decides how existing credit can be transferred into programmes and how a student's prior learning can be recognised for conversion into credit for transfer.

For some trainees, completion of phase 1 and part of phase 2 (only speciality training) may be sufficient for their and their employer's needs. Such trainees will be awarded a Postgraduate Diploma certificate in Surgical Care practice if a student successfully completes 120 credits at level 7 but without a dissertation. This is the minimum requirement to practice as a qualified SCP. If trainees complete only phase 1 due to various reasons without completing a speciality pathway training, they cannot practise as an SCP. They can work as a surgical first assistant with their employer.

Although most trainee SCPs will be employed full time, the design of the curriculum allows for flexibility of progression for those who wish to train and work less than full time (LTFT). In order to be consistent with postgraduate surgical training, the minimum proportion for LTFT will be 60%.

The curriculum design is also sufficiently flexible to enable trained SCPs to re-train in a different surgical specialty without repeating learning already achieved. These trainees can enter directly into Phase 2 speciality training pathway.

There are ten surgical specialties included in the syllabus identifying the knowledge and technical skills for the specific surgical specialty in which the SCP is employed (Table 1). For example, trainee SCPs training to work predominantly in urology would be required to demonstrate the knowledge, skills and behaviours outlined in each of the core clinical capabilities, core clinical presentations, and core professional and behaviour capabilities. In addition, in order to develop more specialised knowledge and skills, the trainee SCPs would look to the urology section of the syllabus and ensure that they could evidence the requirements contained in this section.

Robot-assisted surgery training has been included in Table 1* separately as not only is it increasingly applicable in a number of specialities but also includes general principles relevant to all SCPs .

Table 1 Generic and specialty specific modules in the two phases of training

	Core generic skills modules each including relevant theoretical knowledge, clinical and technical skills
Phase 1	Pre and perioperative care (including history, examination, investigation, interpretation and diagnostics) Preparation for the theatre environment and working within the multidisciplinary team Intraoperative skills (including basic surgical skills and assisting/performing certain surgical procedures) Postoperative assessment and management of surgical patients
	Specialty modules each including relevant theoretical knowledge, clinical and technical skills
Phase 2	General surgery including subspecialties (either as part of general surgery overall or individually) Cardiothoracic surgery Neurosurgery Oral and maxillofacial surgery Otolaryngology Plastic and reconstructive surgery Trauma and orthopaedic surgery Urology Vascular surgery Gynaecology Robot-assisted surgery*

A key component of this curriculum revision is the inclusion of those capabilities that define the professional role of an SCP to run in parallel with the clinical and technical training. These are based on Health Education England's *Multi-professional Framework for Advanced Clinical Practice in England* (HEE, 2017) and the General Medical Council's *Generic Professional Capabilities Framework* (GMC, 2017).

The following will underpin the clinical and technical skills in both phases of the programme, and will be assessed in parallel to these skills:

- management and leadership
- professional values and behaviour
- education and teaching
- audit and service improvement
- research
- multidisciplinary working

Core entry criteria and recruitment

Entrants are expected to be employed as a Trainee SCP having met the appointments criteria of the employing trust before they can apply for the MSc programme and they will need to meet the academic requirements of the relevant HEI. They will be recruited using local organisational selection and recruitment processes. All candidates employed as a qualified PA or ACP should have their training plans and role clearly defined in their job descriptions.

Practitioners who are registered with their appropriate professional regulatory body (eg registered nurses, operating department practitioners and other allied healthcare professionals, as well as Medical Associate Professionals, including Physician Associates, who are expected to be regulated by the GMC in 2024.) will be required to have completed at least 18 months of post-registration experience in practice before entry to phase 1.

Entry to the SCP training programme will be flexible to allow inclusion of previous experience as appropriate entry into the course at phase 2 will be possible if applicants can demonstrate the capabilities included in phase 1. This will require a gap analysis of their skills with appropriate recognition of those skills before determining whether they can enter phase 2 or need to complete specific components of phase 1 (see Table 1). This will require relevant University processes of recognition of prior learning to recognise previous learning to level 7 and not simply skills and experience.

Learning

Learning environment

A workplace-based learning approach is the underpinning philosophy of this curriculum, supported by classroom-based learning and teaching strategies as determined by the respective HEI. Workplace-based learning will provide the majority of experiential learning opportunities working with clinical supervisors and other experienced clinicians. The trainee SCP will be required to gain competence and experience in a variety of settings across the patient journey, and to support the development of a wide range of clinical capabilities, which may include:

- the outpatient department
- preoperative clinics
- the operating theatre
- surgical wards/assessment units
- the emergency department
- critical care
- medical wards/assessment units
- palliative care
- the radiology department

These settings will provide a breadth of clinical and technical learning as well as developing high quality relationships with other specialists, working closely within the multidisciplinary team.

It is anticipated that trainee SCPs will have:

- access to library and online learning facilities (including e-resources)
- local induction to trust/organisational policies, procedures and arrangements that is comparable with that for junior doctors
- access to electronic patient records comparable with medical staff, consistent with their level of training
- adequate resources to enable trainees and their supervisors to prepare work and undertake assessment
- access to storage for confidential training records

Supervision

Educational supervisor
Every trainee SCP is required to have a named educational supervisor (ES) in the same way an ES would supervise a surgical trainee. The ES has overall responsibility for patient safety through clinical governance processes and must ensure that the standard of performance expected is adhered to.

The ES should be contacted if there are any concerns identified by any member of the extended faculty and clinical team regarding the trainee SCP. When performance does not meet the required standard or a clinical incident occurs, the ES is responsible for reporting these issues and informing the trainee.

The ES must be a member of the surgical team, be appropriately trained for the role, be familiar with the curriculum, have demonstrated an interest and ability in teaching, training, assessing and appraising and recognised by the HEI. They are responsible for the management and educational progress of the trainee SCP during the formal training placement or series of placements.

They should have gained skills equivalent to recognised training courses (such as a Training the Trainer course offered by an appropriate educational institution). They must have appropriate access to teaching resources and time for training allocated to their job plan (approximately 0.25 programmed activities recommended per trainee per week). They must have access to the support and advice of their senior colleagues regarding any issues related to teaching and training and must remain up to date with their own professional development

The ES is specifically responsible for:

- providing induction to the area (where appropriate)
- ensuring that trainees are familiar with the curriculum and assessment system relevant to the level
- the phase of training and that trainees undertake it according to requirements
- ensuring that trainees have appropriate day-to-day supervision appropriate to their phase of training
- helping trainees with both professional and personal development
- agreeing a learning agreement with trainees and undertaking appraisal meetings (typically one at the beginning, middle and end of a placement)
- ensuring that reports are completed by clinical supervisors, and that all the capabilities in practice are addressed and any differences in supervision level are explained
- ensuring a record is kept in the portfolio of any serious incidents

Clinical supervisor
A clinical supervisor (CS), who may also be referred to as a workplace supervisor, is an appropriately trained assessor with delegated authority from a consultant surgeon. This could be an experienced SCP who has the necessary skills, knowledge and experience to oversee trainee SCP clinical work. The CS should be familiar with the curriculum documentation and the assessment tools, and be able to give good quality, constructive feedback to enable the trainee to develop and ensure patient safety. The CS is key to assessing a trainee's performance in each skill and procedure using the supervision levels outlined in Table 2.

Learning partnership agreement

A learning partnership agreement is a contract developed and shared by the trainee and the ES. Each trainee SCP should normally have such a learning agreement for each training placement, which sets out the specific aims and learning outcomes for the next stage of their training, based on the requirements of the curriculum. This should be the basis of all educational review discussions throughout all stages of training. The learning agreement will need to be reviewed and updated regularly.

Regular feedback should be provided by the CS and the ES regarding progress in training as part of educational review meetings. This should be a three-way process in the context of an effective professional conversation between trainee SCP, CS and ES. Trainee SCPs should feel able to discuss the merits or otherwise of their training experience and identify factors that may be inhibiting their progress.

Employer responsibilities for trainee SCPs

Effective governance involves inclusive, participative decision making with clear lines of accountability and responsibility. This provides employers with confidence about the delivery and quality of their services.

Employers should ensure appropriate policies and processes are in place that support the practitioner and protect patients. Part of the effective governance process for an employer should be:

- a relevant job description
- annual appraisal
- clear roles and responsibilities
- appropriate policies and procedures
- evaluation
- clearly defined role expectations and assessment processes against these

In order to support the development of trainee SCPs, appropriate local organisational policies should be established. For example, organisational policies in relation to trust induction and mandatory training should be in place to facilitate commitment, progression and the requirements of the role.

Individual employers should assume responsibility and vicarious liability for SCPs, and will be responsible for ensuring that all those in SCP roles should work within their limitations and do not compromise patient safety, quality or effectiveness. Local policies and processes should be modified to reflect this imperative. Without this oversight and governance, there is a risk of 'unconscious incompetence', which may compromise safe care for patients as well as jeopardising the reputation of advanced clinical practice.

Individual and organisational governance needs to be robust, and within legal, regulatory and professional frameworks, thereby reducing levels of risk that could be caused by lack of competence or where adequate safeguards are not in place.

Learning tools

Supervised learning events
Supervised learning events (SLEs) represent an important opportunity for learning and improvement in practice, and they are a crucial component of this curriculum. It is the duty of the trainee SCP to demonstrate engagement with this process through undertaking the appropriate range and number of SLEs, and documenting them in the portfolio.

SLEs are not formal examinations of knowledge or summative assessments and should not be treated as such by either the assessor, supervisor or the trainee SCP. They are an opportunity for the trainee to be observed in the clinical setting, to observe how the trainee works with others (especially the patient) and for the trainee to be given feedback with the aim of improving the trainee's practice. The clinical supervisor's report will draw on the evidence of the trainee SCP's engagement in the SLE process. Participation in this process, coupled with reflective practice, is a way to evaluate how performance is progressing as the trainees gain experience in their role throughout training. (Further detail on SLEs, their purpose, methodology, timing and subject matter can be found in Appendix 1.)

There are four different tools used for SLEs:

1. Clinical evaluation exercise (CEX)
2. Direct observation of procedural skills (DOPS)
3. Procedure-based assessment (PBA)
4. Case-based discussion (CBD) – This is helpful to give feedback on events and should take place away from the patient.

Formal teaching and learning opportunities

Trainee SCPs should be able to demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level. They should take ownership to maximise teaching and learning opportunities that exist in their HEI and clinical work environment. (See Figure 2 for an example of opportunities for trainee SCPs in cardiothoracic surgery.) These may include but are not limited to:

- teaching sessions with medical trainees or SCPs that cover aspects of the curriculum
- case presentations and discussion
- journal clubs
- research and audit projects
- lectures and small group teaching
- clinical skills simulation courses
- joint specialty meetings (including webinars and online specialty symposia)
- management and multidisciplinary team meetings
- local and national conferences
- clinical governance meetings

Trainee SCPs will experience learning opportunities in a range of workplace situations, including:

- *Personal ward rounds and provision of ongoing perioperative clinical care* – Every patient seen, on the ward or in the outpatient clinic, provides a learning opportunity, which will be enhanced by following patients through the course of their surgical pathway. The experience of the evolution of patients' problems over time is a critical part of both the diagnostic process and management. This practical experience should provide the basis for critical reading and reflection on clinical problems.

- *Ward rounds by senior clinicians* – There is an opportunity for learning every time a trainee SCP observes a more senior clinician interacting with a patient (or a patient's relatives or next of kin). Ward rounds (including post-take) should be led by a more senior clinician, and should include feedback on clinical and decision making skills.

- *Operating theatre lists* – Work in the operating theatre is fundamental to the development of the SCP's technical skillset. The principles of observation, assisting and then performing procedures are key to progression of operative skills. Theatre working also provides opportunities for learning in perioperative care and non-operative technical skills.

- *Multidisciplinary team meetings* – There are many situations where clinical problems are discussed with clinicians in other disciplines. These provide excellent opportunities for observation of clinical reasoning.

- *Unselected and specialty specific takes* – Trainee SCPs will be involved in the acute unselected take on a regular basis throughout the training programme. The skills learnt will form the fundamental basis for managing the specialty specific unselected take. Most trainees will not experience specialty specific take and it is not mandatory for them to do so.

- *Post-take consultant ward rounds* – It is important that trainee SCPs have an opportunity to present at least a proportion of the patients they have admitted to their consultant for senior review in order to obtain immediate feedback on their performance. This may be supplemented by an appropriate workplace-based assessment (eg acute care assessment tool, clinical evaluation exercise, case-based discussion).

The degree of responsibility taken by the trainee SCP will increase as competence increases. There should be appropriate levels of clinical supervision throughout training, with increasing clinical independence and responsibility.

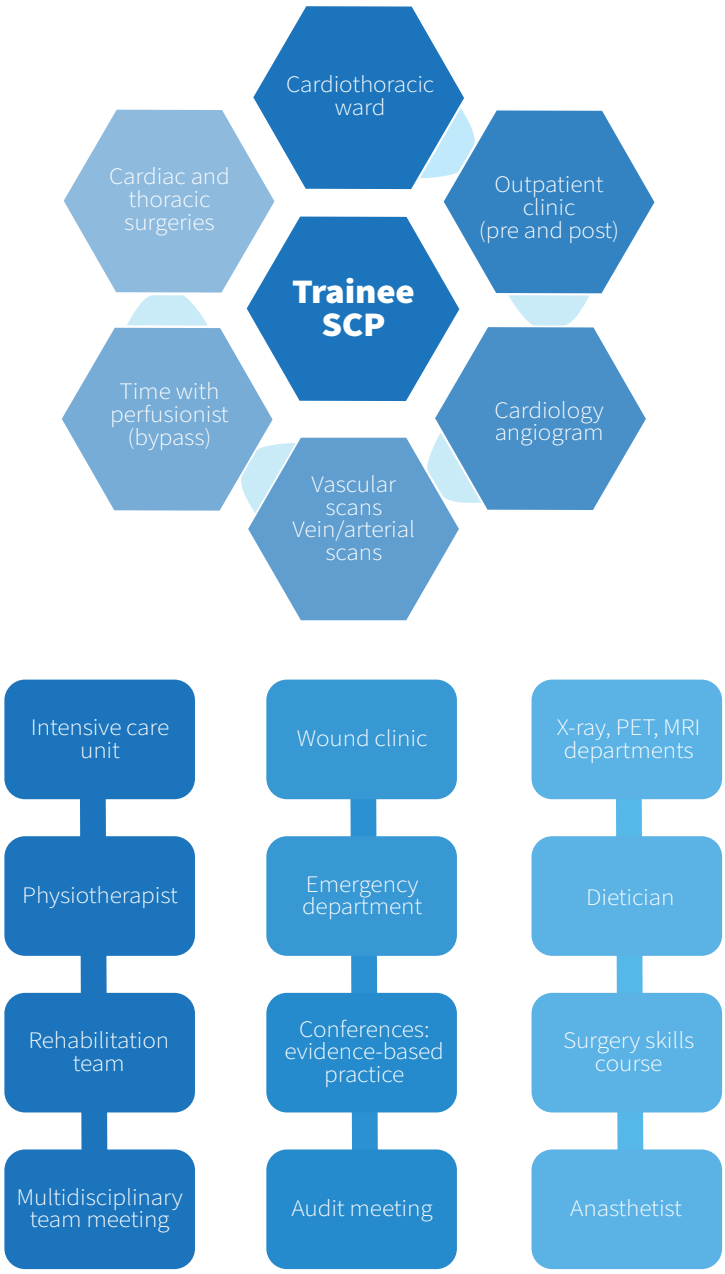


Figure 2 Example of cardiothoracic surgery bespoke placements – The main areas a student should visit within their speciality to achieve the knowledge and understanding of the core curriculum (MRI = magnetic resonance imaging; PET = positron emission tomography)

Other formal education or clinically based courses can be undertaken to support the development of the SCP capabilities, such as advanced life support, research, teaching, and leadership and management training. These additional opportunities will support and underpin the development of capabilities aligned to the four pillars of advanced practice.

Simulation

Teaching in formal situations often involves the use of simulation. Simulation is a recognised educational technique that enables trainees to practise and acquire technical and non-technical skills safely when there may be limited exposure in real life. It can also be used to assess competence. Simulation is a valuable learning tool that can provide the SCP with specific and relevant feedback focusing on performance and behaviour.

Simulation training has several purposes:

- supporting learning
- addressing specific learning needs
- situational awareness of human factors, which can influence people and their behaviour
- enabling the refining or exploration of practice in a patient safe environment
- promoting the development of excellence
- improving patient care

Provision of feedback and performance debriefing are integral and essential parts of simulation-based training. Simulation training broadly follows the same pattern of learning opportunities offering insight into the development of technical skills, teamworking, leadership, judgement and professionalism.

Trainee responsibility

Throughout training, emphasis in this curriculum is on the development of good clinical judgement, and this includes the ability to judge when to seek assistance and advice. Trainee SCPs are responsible for recognising and working within the limits of their professional competence, consulting with colleagues as appropriate.

Trainee SCPs are required to take responsibility for their own learning, and to be proactive in initiating appointments to plan, undertake and receive feedback on learning opportunities, including ensuring that:

- the learning agreement is created and meetings are held within the clinical practice in order to discuss progress
- assessments are undertaken and validated by assessors
- evidence of learning is recorded systematically in the portfolio

Recording progress in a portfolio
The ES and trainee SCP should discuss and be clear about the use of a learning portfolio. Regular help and advice should be available to the trainee to ensure that the portfolio is developed to support professional learning. The portfolio platform should meet criteria of the parent HEI and should be transferable into practice following completion of training.

All trainee SCPs are expected to maintain and develop a portfolio of evidence to demonstrate achievement of their capabilities. Trainees will use a portfolio to gather evidence on progress, and to store assessment and appraisal documentation along with other records of training and reflective practice.

The reliability of this process can be enhanced when evidence is triangulated to clearly demonstrate the application of capability through writing, observation and conversation. For example, a clinical task could be assessed by an expert clinician who then discusses and provides feedback to the trainee, who in turn reflects on the experience. Emphasis is placed on quality as opposed to quantity of evidence and each item of evidence should only be used to demonstrate competence in a maximum of two topics, thus encouraging and supporting breadth of experience.

Trainee SCPs should add their own self-assessment ratings to record their view of progress. The aims of the self-assessment are to:

- provide a means for reflection and evaluation of current practice
- inform discussions with supervisors to gain insight and support the development of personal development plans
- identify further areas for improvement in relation to experience, competence and areas defined in the curriculum to guide future clinical exposure and learning

Self-directed learning
Self-directed learning permits the development of clinical capability, especially when there is effective reflection on all aspects of learning. Trainee SCPs are expected to take a proactive approach to learning and development as a member of a multiprofessional team.

Trainee SCPs are responsible for:

- engaging with opportunities for learning
- initiating assessments and appraisal meetings with their trainers
- undertaking self and peer assessment
- undertaking regular reflective practice
- maintaining an up-to-date learning portfolio

Trainee SCPs are encouraged to establish study groups and journal clubs, and conduct peer review. Trainees should seek opportunities to learn with peers at a local level through postgraduate teaching and discussion sessions.

Trainee SCPs are expected to undertake personal study in addition to formal and informal teaching. This will include using study materials, journal publications and reflective practice. Moreover, trainees are expected to use the developmental feedback they receive from trainers and supervisors when undertaking assessments to focus further on research and practice.

Reflective practice
Reflective practice is a fundamental component of professional working, and a key part of self-directed learning and continuing professional development. It is an educational exercise that enables trainees to explore with rigour the complexities and underpinning elements of their actions in order to further refine and improve them. Reflection in the oral form is very much an activity that SCPs should engage in, and that they would find both useful and developmental. Writing reflectively adds more to the oral process by deepening the understanding of practice, providing a reference point to demonstrate development and a starting point for shared discussion.

With each modality of reflection, it is important that it takes place and that there is a record of it having taken place, whether or not the specific subject or content of the reflection is recorded. Trainee SCPs must remember that any reflective piece must not contain anything that could identify a patient.

Programme of assessment

Purpose of assessment

Assessment of learning is an essential component of any curriculum. The focus is on good practice that is based on fair and robust assessment principles and processes in order to ensure a positive educational impact on learners, and to support assessors in making valid and reliable judgements. Professional judgement is central to the assessment framework with assessors taking responsibility and being held accountable for these judgements.

This curriculum is based on assessments in the workplace, supported by appropriate assessment of structured learning, knowledge and skills acquisition. Trainee SCPs are expected to gain 60 credits (defined by the respective HEI course) for phase 1 before progressing to phase 2. The award of the MSc degree in Surgical Care Practice will be made on completion of 180 credits.

The overall purpose of assessment is to enhance learning and benchmark progress. This includes:

- providing robust evidence that trainee SCPs are meeting the curriculum standards
- demonstrating competence in achieving the core and specialty capabilities identified in the curriculum
- encouraging formative feedback enabling trainee SCPs to measure their performance and identify areas for further development (Table 2).
- informing development and identifying any requirements for additional training where necessary, and facilitating decisions regarding progression

Assessments are described as helping learning (formative) or testing learning (summative).

Formative assessment:

- assesses trainee SCPs' actual performance in the workplace
- enhances learning by enabling trainees to receive immediate feedback, understand their own performance and identify areas for development
- drives learning and enhances the training process by making it clear what is required of trainee SCPs, and motivating them to ensure they receive suitable training and experience
- enables supervisors to reflect on trainee needs in order to tailor their approach accordingly

Summative assessment:

- provides robust evidence that trainee SCPs are meeting the curriculum requirements during their training
- ensures that trainee SCPs possess the required essential underlying knowledge
- informs the review of capability progression, identifying any requirements for targetted or additional training where necessary and facilitating decisions regarding progression
- provides information for the quality assurance of the curriculum
- allows performance to be judged against the capabilities outlined in the core and specialty capabilities, and should be assessed in line with a minimum supervision level

Continuing professional development and revalidation

In line with the requirements of their regulatory body, all trainee SCPs should engage in continuing professional development and maintain a portfolio to ensure that they meet the requirements for professional revalidation. It should be noted that professional revalidation is required for the whole scope of practice, which is the responsibility of the practitioner's professional statutory and regulatory body.

A logbook of clinical practice and operative cases is maintained to evidence ongoing knowledge and core procedural skills. On completion of training, SCPs should present a clinical portfolio to demonstrate progression of their clinical knowledge and skills, which can be submitted for approval for acknowledgement of advanced practice; this will include the logbook.

Assessment in practice

Assessment includes a spectrum of specific tools to ensure the trained SCP has achieved the necessary capabilities defined in this curriculum. These include capabilities in practice (CiP) and a variety of workplace-based assessments. These are complemented by feedback and reflection on trainee progression by the respective CS, who provide reports to the ES. The ES also develops their own assessment of the trainee, which feeds into the annual review of the trainee's progress, completed by a panel of those closely involved in the oversight of the course: the HEI, ES and senior SCP. This process is supported by interim reviews with the trainee SCP held by the ES on a quarterly basis. The trainee SCP needs to be approved to progress from phase 1 and at the end of phase 2 for the award of an MSc degree in Surgical Care Practice.

Capabilities in practice

A CiP is the description of the level of capability expected of a 'day 1' SCP who has completed the MSc in surgical care practice (Table 2). CiPs represent a move away from the 'tick box' approach of previous assessment frameworks, which often do not provide an effective summative assessment of performance.

The CiPs align to the main weekly tasks that are within the scope of the SCP role, including clinical and technical skills, and knowledge. They are equivalent to the clinical practice pillar and are as follows:

- Undertaking an operating list in the operating theatre
- Undertaking an outpatient clinic
- Undertaking ward work with the ongoing care of inpatients
- Undertaking the unselected emergency take
- Multidisciplinary team working

Table 2 Supervision levels for skills and procedures

Level	Supervision
Level 1	**Able and trusted to observe only**
Level 1a	Passive observation
Level 1b	Active observation
Level 2	**Able and trusted to act with direct supervision/assistance**
Level 2a	Some of the capability conducted under direct supervision
Level 2b	Most of the capability conducted under direct supervision
Level 2c	Capability performed completely under direct supervision
Level 3	**Able and trusted to act with indirect supervision***

*The supervisor does not need to guide all aspects of the activity. For those aspects that do need guidance, this may be given from another setting. The supervisor may be required to be physically present on occasions.

These clinical CiPs are complemented by the core professional and behaviour capabilities (CPBCs), which are drawn from Health Education England's four pillars of advanced practice and the GMC's Generic Professional Capabilities:

1. Core professional and behaviour capabilities (CPBC)
2. Leadership and management
3. Education
4. Research

The CPBCs require trainee SCPs to demonstrate professional behaviour with regard to patients, carers, colleagues and others at all times. Such professional behaviour should also reflect the relevant code of professional conduct to which a trainee is bound. These CPBCs are included in the assessment of CiPs and are also assessed in their own right.

Taken together with the CPBCs, the CiPs describe the role of an SCP but more detail is needed to help trainee SCPs develop each capability through training via detailed feedback and focused development goals. Each CiP has a set of descriptors associated with that activity or task. (See Appendix 2.) While not an exhaustive list, the descriptors should support trainee SCPs and their trainers to recognise the minimum level of knowledge, skills and attitudes required to meet each CiP. Many CiP descriptors refer specifically to patient centred care and shared decision making to emphasise the importance of patients being at the centre of decisions about their own treatment and care.

The CiP for working in the operating theatre requires the integration of knowledge, clinical and diagnostic skills, and technical skills described in the syllabus as well as interpersonal skills and other skills described in the CPBCs. By describing the component parts of a CiP, descriptors also support assessment decisions on the level of supervision required at each stage of training. The descriptors provide prompts for feedback on performance by allowing identification of areas of excellence or specific detail on areas for development, including behavioural and professional domains. The descriptors can therefore help trainee SCPs identify where to focus their efforts.

Each CiP is assessed against a supervision scale with the level of supervision decreasing and complexity increasing as the trainee SCP progresses towards providing consistent safe and effective patient care. This assurance is confirmed through reports of all CiPs and a portfolio of evidence that is deemed to meet the required standard as defined in the curriculum.

Workplace-based learning

Each individual workplace-based assessment (WBA) is designed to assess a range of important aspects of performance in different training situations. Taken together, the WBAs can assess the breadth of knowledge, skills and performance described in the curriculum. They also constructively align with the clinical CiPs and will be used to underpin assessment in those areas of the syllabus central to the specialty (ie the core conditions and core procedures) as well as being available for other conditions as determined by the trainee SCP and supervisors, and especially where needed in the assessment of a remediation package to evidence progress in areas of training.

The principal WBAs comprise:

- case-based discussion (CBD)
- clinical evaluation exercise (CEX)
- direct observation of procedural skills (DOPS)
- procedure-based assessment (PBA)
- multisource feedback (MSF)
- teaching observation
- acute care assessment tool (ACAT)

The WBA methodology is designed to meet the following criteria:

- *Validity* – The assessment actually does test what is intended. Methods are relevant to actual clinical practice and performance in increasingly complex tasks is reflected in the assessment outcome.
- *Reliability* – Multiple measures of performance using different assessors in different training situations produce a consistent picture of performance over time.
- *Feasibility* – Methods are designed to be practical by fitting into the training and working environment.
- *Cost effectiveness* – The only significant additional costs should be in the training of trainers, and the time investment needed for feedback and regular appraisal. This should be factored into trainer job plans.
- *Opportunities for feedback* – Structured feedback is a fundamental component.
- *Impact on learning* – The educational feedback from trainers should lead to trainees' reflections on practice in order to address learning needs.

WBAs use different trainers' direct observations of trainees to assess specific tasks as trainees manage different clinical situations in different settings. They provide more granular formative assessment than the more global assessment of CiPs.

WBAs are aimed primarily at providing constructive feedback to trainees in important areas of the syllabus throughout each placement in all phases of training. Trainee SCPs undertake each task according to their training phase and ability level, and the assessor must intervene if patient safety is at risk. It would be normal for trainees to have some assessments that identify areas for development because their performance is not yet at the standard for the completion of that training.

Each WBA is recorded on a structured form to help assessors distinguish between levels of performance and prompt areas for developmental feedback. This provides progressive development as the trainee SCP attains capabilities on an incremental basis to reach the level defined in the CiP. It is recognised that trainees will develop at different rates and failure to attain a specific level at a given point will not necessarily prevent progression if other evidence shows satisfactory progress.

The assessment form includes the trainee's and assessor's individual comments, ratings of individual capabilities (needs development, satisfactory, outstanding) and global rating (using anchor statements mapped to phases of training). Rating scales support the drive towards excellence in practice, enabling learners to be recognised for achievements above the level expected for a level or phase of training.

WBAs are important to provide evidence that trainee SCPs have achieved the learning in the index procedures or critical conditions.

The level of supervision should change in line with the trainee's progression through the curriculum. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of capability for independent practice is acquired.

Continuous systematic feedback and reflection are integral to learning from practice, and will be assisted by the WBAs. Feedback should be of high quality. It should include a verbal dialogue between trainee and assessor in reflection on the learning episode, and attention to the trainee's specific questions, learning needs and achievements as well as an action plan for the trainee's future development. Trainee SCPs are required to keep evidence of workplace-based learning activity with evidence of further development in their portfolio.

Multisource feedback

The majority of the WBAs are designed to assess the capability to perform clinical and technical tasks as well as to discuss clinical cases. These are completed on a day-to-day basis and as described inform the CiP assessments.

The multisource feedback (MSF) tool is different as it is undertaken less frequently (usually for each attachment). It assesses professional capabilities performed as part of working within the surgical team. It comprises self-assessment as well as the assessments of the performance of the trainee SCP provided by a range of colleagues covering different grades and environments (eg ward, theatre, outpatient clinics). Trainees are assessed against the standard expected for completion of their training level.

Feedback is in the form of a peer assessment chart, enabling comparison of the self-assessment with the collated views received from the team including their anonymised but verbatim written comments. The ES should meet with the trainee SCP to discuss the feedback on performance in the MSF.

The MSF has been included in this curriculum as opposed to the multiple consultant report used in core surgical training, reflecting the more focused activity of the trainee SCP working within the team environment of a single surgical team. The MSF is a key part of the assessment of a trainee's professional skills. Since it is expected that a trainee completes at least one each year the MSF should be a focus for discussion between the trainee, the ES and the HEI at the annual review of progress of the portfolio.

The role of the assessor

Assessors can include consultant surgeons, experienced SCPs or other senior healthcare professionals who are appropriately qualified and skilled in assessment and who have delegated authority from the ES. Assessment in practice is an ongoing developmental process of gaining competence with decreasing supervision within the surgical team such that the trainee SCP can be trusted to work at a level of practice independent of senior colleagues. Assessment of capability at this level is multifaceted in that it includes the acquisition of knowledge, demonstration of skill, and evidence of receiving and responding to feedback on several occasions before assessment and sign-off can take place.

Assessors can undertake both formative and summative assessments. They must be competent in the area they are assessing and be aware of the standard required, including training. They should be trained in the methodology of WBAs and CiPs in order to be able carry out a range of assessments, and to provide verbal and written feedback to the trainee. Any summative clinical assessments should be completed by the ES.

Assessments during training are usually carried out by the CS, who is best placed to recommend supervision levels because it is the CS who observes the performance of the trainee SCP in person on a day-to-day basis. The CS will provide reports to the ES, recommending the supervision level and providing detailed formative feedback to trainees with reference to the CiPs. The assessment of the CiP is based on the high level outcomes of the curriculum. This involves a global professional judgement of a range of different skills and behaviours as well as evidence from the WBAs.

Other members of the surgical team including senior trainees, senior nurses and doctors from other medical disciplines may assess trainee SCPs in areas where they have particular expertise and training. Those who are not medically qualified may also act as assessors for the trainee SCP's multisource feedback but will need to be appropriately trained.

Trainee SCP self-assessment

Trainee SCPs should complete the self-assessment of CiPs in the same way as supervisors, using the same form and describing self-identified areas for development with free text or using the descriptors for the CiPs. Reflection for insight on performance is an important development tool and self-recognition of the level of supervision needed at any point in training enhances patient safety.

Self-assessments are part of the evidence reviewed when meeting the ES at the mid-point and end of a placement. A wide discrepancy between the self-assessment of supervision level and the recommendation by the CS to the ES allows identification of too much or too little confidence, and for support to be given accordingly.

Progression as a trainee SCP

Progression through training reflects a combination of the WBAs to enable the trainee to meet the CiPs and the assessments of the academic work undertaken in the HEI. The approaches to facilitate progression include both informal review and formal evaluation of all the evidence that the trainee SCP acquires during their training (review of competence progression). The ES is key to the process of performing the regular interim, informal reviews and providing formal reports to the panel that undertakes the annual evaluation.

Interim review

Review of the progress of the trainee SCP is required every 12 weeks at a meeting between the ES and trainee. This timeframe meets apprenticeship requirements and is also aligned with medical education to provide parity where similar skillsets are being developed.

CSs and others contributing to assessment will provide formative feedback to trainees on their performance on a regular basis. This feedback will include a global rating in order to indicate to trainees and their ES how they are progressing appropriate to the stage of training.

In making a supervision level recommendation, CSs should take into account their experience of working with the trainee SCP and the degree of autonomy they were prepared to give them during the placement. They should also take into account all the descriptors of the activities, knowledge and skills listed in the detailed descriptions of the CiP. Supervisors do not need to comment on every descriptor but should use them to highlight areas that are above or below the expected level of performance.

If the trainee SCP requires a degree of supervision to carry out an activity, then the assessment should indicate which of the descriptors of the activities, knowledge and skills require further development. Similarly, if a trainee excels in one or more areas, the relevant descriptors should be indicated.
Every 12 weeks, trainee SCPs will make a self-assessment of their progression and record this in the portfolio with signposting to the evidence to support their rating. The self-assessment provides an excellent basis for constructive feedback between ES and trainee. The ES will review and record their judgement on the trainee's performance in their report. The evidence in the portfolio must include:

- workplace-based assessments
- feedback received from CS
- the trainee's self-assessment
- review of academic learning (if taking place)

The ES will indicate whether the trainee is meeting expectations using global statements from the descriptors. Trainee SCPs will need to be meeting critical progression points for the stage of training as a minimum to be judged satisfactory to progress as well as the learning objectives set from previous meetings. ESs will make a decision for each CiP and record the indicative level of supervision required with comments to justify their decision.

This framework is designed to identify where trainees may be running into difficulties. Where possible, these are resolved through targetted training, practice and assessment with specific trainers, and (if necessary) with the involvement of the ES to provide specific remedial placements, additional time and additional resources.

Annual review

At the end of each year, the ES will provide a structured report to the review of capability progression detailing the progress of the trainee SCP using evidence from the assessments based on the CiPs, the academic work and the trainee's portfolio. This review will be undertaken by a panel comprising the ES, the HEI course lead, a Senior SCP with whom the trainee works and the Line manager.

The outcome of the panel will determine whether the trainee has progressed satisfactorily against the curriculum defined capabilities and is appropriate to progress to the next phase and to inform discussions for the Learning Partnership Agreement for the next phase of training.

Completion of training

Criteria for completion of training
At the end of the course, trainee SCPs will be expected to have completed all appropriate modules with the related professional skills. The assessment of these skills will be completed not only separately but also in the context of the clinical and technical practice. For the operative skills, the levels will reflect the complexity of a procedure and will be equivalent to a surgical trainee completing the core surgery training curriculum.

Completion of training requires:

- successful completion of an MSc in surgical care practice (180 credits) or PG Diploma in surgical care practice (120 credits)
- successful completion of all core clinical capabilities to supervision level III
- completion of the selected surgical specialty module knowledge and clinical skills (DOPs) to supervision level III
- successful completion of core professional and behaviour capabilities
- 3 referenced case studies to demonstrate work across the four pillars of advanced practice
- a change report summarising a project on a piece of practice development

Table 3 summarises the capabilities required to complete the SCP training programme which should be recorded by the trainee in their electronic portfolio.

Table 3 Capabilities required to complete the SCP training programme

Syllabus area	Required evidence	Suggested evidence
Core Generic Skills	• Completion of Core Generic Skills modules • MSF from the training year • Interim ES review and reports every 12 weeks • Year 1: 366 pre- and postoperative care hours and 366 operating theatre hours	• Completion of CiPs for knowledge and clinical skills to supervision level III - supported by formative and summative WBAs covering particular areas of interest as agreed with ES or to evidence progress in targeted training areas as required*
Specialty Module	• Completion of selected Specialty module • MSF from the training year • Interim ES review and reports every 12 weeks • Year 2: 366 perioperative care hours and 366 operating theatre hours • Year 3: 368 perioperative care hours and 368 operating theatre hours	• Completion of CiPs for technical skills to supervision level IIc for PBAs and level III for DOPs – supported by formative and summative WBAs covering particular areas of interest as agreed with ES or to evidence progress in targeted training areas as required* • Logbook record of syllabus defined technical procedures (DOPs and PBAs)
Teaching and training	• Evidence of teaching delivery in ES report	• Evidence of seeking, reflecting on and responding to feedback to develop their knowledge and skills around teaching, learning and assessment based of Teaching CiP descriptors
Research and service improvement	• Evidence of engagement with audit, literature review and guidelines in ES report	• Demonstrate evidence of their impact in specific projects based on Research CiP descriptors
Leadership	• Evidence of engagement with leadership in ES report	• Evidence of engagement with local clinical governance and faculty groups in ES report • Evidence of capability to lead teams and projects based on Leadership CiP descriptors
Annual review	• Review panel annual report confirming satisfactory progress	• Portfolio • Educational supervisor's report

*Aside from the mandatory WBAs, no minimum number of WBAs is specified by this curriculum. Trainees may agree to complete WBAs in areas of interest with their ES or be required to complete a series of WBAs in targetted areas of training by a review of competence progression panel.

Approvals panel
Towards the end of the third year/phase 2 the ES will determine the level of progress against the curricula defined capabilities and review the outcomes of the Annual Reviews and progress against the Learning Partnership Agreements. The ES will provide a structured report with a recommendation on completion of training to the Progression Board or equivalent of the HEI. This should be undertaken with sufficient time to correct any outstanding issues or deficiencies as appropriate.

The reviews by the Progression Board or equivalent will be submitted to the HEI Final Awards Board or equivalent for the award of an MSc degree in Surgical Care Practice.

Trainee SCPs requiring additional assistance

Strategies such as supervision and mentorship as well as ongoing self-assessment are designed so that trainee progress can be carefully monitored to ensure that the trainee SCP is achieving the goals intended from the learning agreement. If the trainee is not making progress, the review process (Table 3) ensures that those experiencing difficulties are supported with a structured plan to correct any deficits and enable progression. Trainee SCPs continuing to experience difficulties achieving clinical and/or academic capabilities may be reviewed in line with local policies as well as specific processes of the relevant HEI. Further advice can be sought from NHS Employers (www.nhsemployers.org) or local human resources departments.

Syllabus: Phase 1

1. Basic sciences

Outcomes

- Acquire and demonstrate a knowledge of the basic science that underpins the practice of surgery

Knowledge

Applied anatomy

- Development and embryology
- Gross and microscopic anatomy of the organs and other structures
- Surface anatomy
- Imaging anatomy

This will include the anatomy of the thorax, abdomen, pelvis, perineum, limbs, spine, head and neck as appropriate for surgical operations in which the trainee SCP will be involved during training.

Physiology

- General physiological principles including:
  - metabolic, ionic and acid/base homeostasis
  - cardiorespiratory homeostasis
  - thermoregulation
  - sepsis and septic shock
  - haemostasis
  - nutrition
  - acid/base balance

This will include the physiology of specific organ systems relevant to surgical care including the cardiovascular, respiratory, gastrointestinal, urinary, endocrine and neurological systems.

Pharmacology

- The pharmacology of drugs used in the treatment of surgical diseases including analgesics, antibiotics, cardiovascular drugs, antiepileptic drugs, anticoagulants, respiratory drugs, renal drugs, drugs used for the management of endocrine disorders (including diabetes) and local anaesthetics
- The principles of general anaesthesia
- The principles of drugs used in the treatment of common malignancies
- The pharmacological principles of immunosuppression and the effect of biological agents

Pathology

- General pathological principles including:
  - necrosis and apoptosis
  - inflammation and immunity (including transplant rejection)
  - repair, regeneration and healing
  - thrombosis and embolism
  - shock, systemic inflammatory response syndrome and multiple organ failure
  - neoplasia (including carcinogenesis, the biology of tumour growth, metastasis, and the principles of grading and staging)
  - disease epidemiology

This will include the pathology of specific organ systems relevant to surgical care including cardiovascular pathology, respiratory pathology, gastrointestinal pathology, genitourinary disease, breast, exocrine and endocrine pathology, central and peripheral, neurological systems, skin, lymphoreticular and musculoskeletal systems.

Microbiology
- Infection control (including sources of infection, asepsis, disinfection and sterilisation)
- General pathology of bacterial and viral disease (including mechanisms of injury and systemic sepsis)
- Soft tissue infections (including cellulitis, abscesses, necrotising fasciitis and gangrene)
- Hospital acquired infection, antibiotic governance and bacterial resistance
- Prevention of the transmission of blood borne viral infection during surgery

Imaging
- Principles of diagnostic and interventional imaging (including plain x-rays, ultrasonography, CT, MRI, PET and radionucleotide scanning) (at qualification, trained SCPs will be eligible for IRMER [Ionising Radiation (Medical Exposure) Regulations] training and then will be able to request ionising radiation investigations)
- Indications for specific investigations and the complementary nature of the different imaging techniques

2. Clinical method in surgical practice

Outcomes
- Demonstrate the knowledge and skills required to assess and investigate a patient presenting to a surgical team including all the areas below

Clinical skills
- Take a tailored history and perform a relevant examination in an outpatient clinic
- Common presentations and their natural history
- Important investigations and likely findings
- Construct and investigate a differential diagnosis
- Management options and published guidelines
- Prognosis
- Take a tailored history and perform a relevant examination for an acutely unwell patient
- Detect the need for and initiate resuscitation in an unwell patient
- Facilitate a patient centred discussion of treatment options and agree on a management plan
- Record observation and interventions accurately and contemporaneously

3. Perioperative care

Outcomes
- Demonstrate the knowledge, understanding and skills required to prepare the patient for theatre, assess and manage risk of patients in the pre and postoperative phases of care.

PREOPERATIVE PERIOD

Knowledge and understanding
- Risk factors for surgery and scoring systems (including ASA grade and venous thromboembolism risk)
- Antibiotic and venous thromboembolism prophylaxis guidelines
- Principles of ambulatory day surgery (including selection and discharge criteria)
- Ethical principles of and legislative framework for capacity and consent
- Nutritional assessment methods and feeding options

Clinical skills
- Assess operative and anaesthetic risk, and communicate with the anaesthetic and theatre teams
- Plan perioperative nutrition in advance in partnership with the nutrition team
- Engage with multidisciplinary team discussions (including those with oncology and interventional radiology)
- Understand the use of pharmacological agents for the treatment of chronic intercurrent disease, modified appropriately to the perioperative period
- Assess the patient's mental capacity
- Obtain consent for surgery (according to local policy)

POSTOPERATIVE PERIOD

Knowledge and understanding

- Spectrum of postoperative complications:
  - » Sepsis
  - » Bleeding
  - » Acute complications specific to the procedure/system
  - » Cardiovascular, respiratory, renal, hepatic and neurological (including delirium/confusion) complications
  - » Pain management
- Guidelines for indications for and management of complications of the transfusion of blood products
- Principles of enhanced recovery

Clinical skills

- Assessment of the unwell postoperative patient
- Delivery of effective analgesia
- Diagnosis and treatment of venous thromboembolism
- Postoperative monitoring and optimisation of fluid and electrolyte balance
- Diagnosis and treatment of postoperative infection and sepsis
- Diagnosis and treatment of transfusion reactions
- Assessment of cognitive impairment seeking to differentiate dementia from delirium, with the knowledge that delirium is common in people with dementia
- Record observation and interventions accurately and contemporaneously

4. Critical care

Outcomes

- Demonstrate the knowledge and skills required to contribute to the management of deteriorating and critically unwell patients (including general acute deterioration and postoperative complications)

Knowledge and understanding

- Recognise and promptly assess the deteriorating, acutely ill, collapsed or unconscious patient using an 'Airway, Breathing, Circulation, Disability, Exposure' (ABCDE) approach
- Initiate prompt appropriate management to stabilise/prevent further deterioration in patients with common acute presentations (including mental illness) and seek timely senior help with the further management
- Reassess acutely ill patients to monitor efficacy of interventions (including those aimed at managing acute mental illness, and maintaining patient safety and the safety of others)
- Recognise when a patient should be moved to a higher level of care, and seek appropriate assistance with review and management in a timely manner
- Communicate with the patient's relatives/friends/carers in acute situations and ensure support is offered
- Demonstrate understanding of initial assessment, appropriate investigations, initial management, treatment and timely escalation for the following presentations:
  - » Acute shortness of breath
  - » Chest pain
  - » Impairment of consciousness
  - » Collapse
  - » Fall
  - » Acute left ventricular failure
  - » Acute coronary syndrome
  - » Pain
  - » Seizure
  - » Neurological impairment – stroke, limb weakness

- Demonstrate knowledge of the following diagnosis and initial management of postoperative complications:
  - » Major haemorrhage
  - » Sepsis
  - » Pulmonary embolism
  - » Anaphylaxis

Clinical skills

- Perform cardio-pulmonary resuscitation – initial response and team response
- Correctly interpret clinical and non-invasive monitoring of vital signs
- Recognise the indications for immediate therapy for an acutely ill patient (eg oxygen, fluid challenge, antibiotics)
- Identify electrolyte imbalance, and deliver a safe and effective method of correction
- Record and act on changes in physiological status, anticipating and planning appropriate action to prevent deterioration in vital signs
- Inform senior colleague and request assistance/review appropriately
- Communicate with the patient, relatives and carers, and ensure they are supported
- Perform prompt, rapid, focused assessment of patients who present an acute risk to themselves or to others in the context of mental disorder, incapacity or incompetence
- Knowledge and understanding of information to support diagnosis and severity of sepsis
- A systematic, prioritised method of managing the septic patient according to evidence-based practice and national guidance
- Resuscitation and early management of the septic patient
- Record observation and interventions accurately and contemporaneously

5. Core clinical capabilities

5.1 Respiratory system

Outcomes

- Demonstrate knowledge of the respiratory system, analysing severity and its impact on related systems
- Demonstrate the ability to recognise the influence of social history, age, symptomatic and clinical signs, relevant to the normal and abnormal anatomy and physiology in patients, by undertaking supervised clinical examination and appropriate investigation, identifying the relevant anatomical and physiological features

Clinical skills

- Undertake competent assessment of the respiratory system, and demonstrate history and assessment skills, identifying the correct tests to help elucidate the differential diagnoses
- Recognise and manage acute respiratory failure
- Identify the indications for chest x-ray/CT

Technical skills and procedures

- Demonstrate the ability to:
  - » correctly identify the evidence-based indications and manage a patient's airway utilising the appropriate device
  - » safely administer oxygen using different devices
  - » correctly perform and analyse an arterial blood sample, and take appropriate action
- Maintain patent airway and take appropriate emergency action as required:
  - » Jaw thrust/head tilt, chin lift
  - » Use of supraglottic device (eg oropharyngeal, i-gel®, laryngeal mask)
- Advanced life support provider status (mandatory)

5.2 Cardiovascular system

Outcomes

- Demonstrate knowledge and understanding of the cardiovascular system, analysing severity and its impact on related systems
- Demonstrate the ability to recognise the influence of social history, age, symptomatic and clinical signs
- Demonstrate the ability to be able to relate findings to the normal and abnormal anatomy and physiology in patients

Clinical skills

- Undertake assessment of the cardiovascular system, and demonstrate history and assessment skills, identifying the correct tests to help elucidate the differential diagnoses
- Recognise and manage acute cardiac failure
- Recognise and manage acute myocardial infarction
- Assess, interpret and manage electrolyte values including:
  - potassium
  - sodium
  - calcium
  - magnesium
  - phosphate
- Interpret full blood count and coagulation screens
- Interpret 12-lead electrocardiogram
- Knowledge of the indication for cardiac enzyme tests and the interpretation of results

5.3 Renal system

Outcomes

- Demonstrate knowledge of the renal system, and its impact on related systems
- Demonstrate the ability to recognise the influence of social history, age, symptomatic and clinical signs, relevant to the normal and abnormal anatomy and physiology in patients with:
  - acute kidney injury
  - chronic kidney failure

Clinical skills

- Undertake assessment of the renal system
- Demonstrate a systematic analytical approach to specific renal tests
- Ability to correctly order and interpret:
  - patient fluid status
  - blood urea and electrolyte levels
  - urine electrolyte levels
  - urine microbiology samples

6. Procedural skills

Outcomes

- Demonstrate knowledge and understanding of the indications and contraindications for each of the procedures listed below and be able to perform them without supervision. The trainee SCP will need to be able to:
  - explain the procedure to patients (including possible complications) and gain valid informed consent
  - prepare the required equipment (including a sterile field)
  - position the patient
  - have knowledge and understanding of appropriate analgesia for certain patients
  - adequately prepare the skin using aseptic technique where relevant
  - administer local anaesthetic correctly for the procedure

  - safely dispose of equipment (including sharps)
  - document the procedure (including the labelling of samples and giving instructions for appropriate aftercare/monitoring)

Procedures (DOPs)

- Venepuncture
- Intravenous cannulation
- Insertion of intraosseous device
- Intravenous medications and injections
- Arterial puncture in an adult
- Blood culture from peripheral sites
- Intravenous infusion including the prescription of fluids
- Intravenous infusion of blood and blood products (including authorisation and prescribing)
- Injection of local anaesthetic to skin
- Injection – subcutaneous (eg insulin, low molecular weight heparin)
- Injection – intramuscular
- Perform and interpret an electrocardiogram
- Perform and interpret peak flow
- Set up and administer nebulisation
- Urethral catheterisation (male and female)
- Airway care including simple adjuncts (eg oropharyngeal airway, laryngeal mask)
- Insertion of nasogastric tube
- Measurement of ankle-brachial pressure index and lower limb venous circulation using handheld Doppler ultrasonography probe and tourniquet

7. Intraoperative skills

Outcomes

- Develop the knowledge, understanding and skills required to assist safely during surgery

Knowledge and understanding

- World Health Organization surgical safety checklist and any implant checklists
- Stages of relevant surgical procedures
- Anticipated intraoperative complications and how to manage them
- Surgical instrumentation and their uses
- Common equipment and problem solving including specialist equipment
- Underpinning knowledge to support safe decision making when assisting intraoperatively:
  - Principles of infection control and equipment sterility
  - Knowledge and understanding of methods of skin preparation and different skin preparation solutions (including indications and contraindications)
  - Principles of safe surgical site marking
  - Hair removal methods
  - Safe patient transfer, positioning for different procedures to ensure good surgical visualisation, taking into account patient factors, and potential risks and hazards
  - Principles of tissue handling and exposure
  - Different types of retractors, their uses and potential hazards
  - Different methods of assisting with haemostasis, and their indications and hazards
  - Knowledge and understanding of diathermy settings, their applications and contraindications
  - Camera manipulation techniques and knowledge and understanding of the laparoscopic stack system
  - Robotic surgery techniques and knowledge and understanding of equipment
  - Knowledge and understanding of suture materials, types of knots and types of wound closure
  - Principles of suture cutting
  - Knowledge and understanding of different local anaesthetics and potential complications
  - Knowledge and understanding of different surgical drains
  - Appropriate dressings (including vacuum assisted closure, indications, contraindications and their application)

  - Principles of:
    - enhanced recovery
    - wound healing
    - hypothermia
    - intraoperative documentation
    - implementation of appropriate governance requirements
    - perioperative adverse events and incident reporting

Technical skills and procedures

DOPs

- Principles of sterile conditions (including scrubbing for surgical procedures)
- Assisting with patient positioning (including identifying risks such as nerve damage and undertaking tissue viability assessment)
- Principles of prepping and draping (including an awareness of surgical marking)
- Principles of surgical retraction (including potential hazards)
- Competence in knot tying and different knot requirements
- Urinary catheterisation
- Assisting with haemostasis (including direct application of surgical diathermy)
- Suturing under the direction of the CS
  - Suturing of skin layers including different methods (subcuticular, interrupted) as clinically indicated
  - Suturing and securing wound drains
- Administration of prescribed local anaesthesia in superficial layers
- Choice and application of dressings as require
- Demonstrate safe use of equipment such as:
  - insufflator
  - minimally invasive laparoscopic systems
  - camera manipulation for minimally invasive surgery
  - high energy ultrasonic Harmonic® devices
  - vacuum assisted closure therapy
  - cell salvage
  - warming devices
  - robotic surgery systems
- Radiation protection particularly in Vascular Surgery, Trauma and Orthopaedics and Urology

8. Skin care and wound management

Outcomes

- Demonstrate knowledge and understanding of skin integrity and breakdown, utilising validated objective scoring systems and local protocols
- Provide evidence of the ability to formulate preventative strategies for pressure sore management and the management of wound care by liaising with specialist teams and resource providers for the risk groups

Clinical skills

- Provide evidence of the ability to identify those at risk (malnourished surgical patients)
- Ability to advise regarding:
  - mattress choice
  - pressure relieving devices
  - the malnourished patient
  - patients with excessive exudate
- Ability to assess, plan, implement and evaluate wound management issues, providing advice and liaising with specialist teams to ensure the correct evidence-based management strategies are employed for surgical wounds including:
  - uncomplicated wound healing
  - drainage sites
  - wound dehiscence
  - open abdominal wounds
  - pressure ulcer management

9. Infection prevention and control

Outcomes

- Demonstrate knowledge and understanding regarding the management of infection control issues, ensuring that the clinical environment remains safe for patients and staff by demonstrating:
  - » a sound knowledge of public health issues and potential environmental hazards
  - » rigorous hand hygiene and use of personal protective equipment
  - » leadership and encouragement to all other staff groups
- Demonstrate analytical skills when recognising and managing the septic patient, and provide evidence of strategies to contain groups and conditions that require isolation

Clinical skills

- Provide evidence of the processes of assessment/screening and interpretation of:
  - » appropriate inflammatory markers (including but not limited to C-reactive protein/white cell count)
  - » sepsis care (including but not limited to lactate)
  - » management of antimicrobials
  - » referral to appropriate critical care environment if indicated
  - » evaluation of outcomes

10. Pain management

Outcomes

- Demonstrate the ability to provide expedient care when assessing, managing and evaluating the pain of the surgical patient. This will include:
  - » supporting and/or conducting rigorous pain assessment
  - » ensuring symptomatic relief of physical discomfort and anxiety
  - » demonstrating good communication and psychological support for the patient
  - » knowledge and understanding of different routes and methods of pain management

Clinical skills

- Demonstrate the ability to perform pain assessment based on history and clinical situation, and formulate an evidence-based, patient focused management plan incorporating:
  - » appropriate use of opiates and non-steroidal anti-inflammatory drugs
  - » postoperative protocols
  - » patient controlled epidural analgesia including:
    - assessment of nerve block bolus
    - skin preservation
    - patient controlled intravenous analgesia

11. Health promotion

Outcomes

- Develop the capabilities required to support patients in caring for themselves in order to empower them to improve and maintain their own health:
  - » Damaging health and social issues (eg excessive alcohol consumption, smoking, illicit drugs), and the harmful effects they have on health
  - » The connection between mental health and physical health
  - » The importance of health education for promoting self-care for patients
  - » The health risks posed by obesity (including increased incidence of coronary heart disease, type 2 diabetes, hypertension, stroke and some major cancers)
  - » Social, psychological and environmental factors that underpin obesity
  - » Physiological and metabolic effects of obesity on the surgical patient
  - » Available treatments for obesity (including diet, exercise, medication and surgery)
  - » Clinical features of dementia, and the distinction between dementia and delirium
  - » The impact of dementia on the patient, family and carers

  - » Physical inactivity as an independent risk factor for ill health and obesity
  - » Relationship between physical exercise programmes and healthy eating and smoking cessation programmes

Clinical skills

- Modify explanations to match the intellectual, social and cultural background of individual patients
- Identify and use opportunities to promote health (including positive role modelling)
- Assess and explain the higher risks for obese individuals undergoing surgery
- Provide advice and guidance about weight loss to overweight and obese patients in the context of a multidisciplinary team
- Manage surgical patients in the context of their dementia
- Employ a range of techniques and strategies to communicate effectively with people with dementia and their carers/families
- Use all patient interactions as opportunities for health and fitness promotion

12. Frailty

Outcomes

- Demonstrate the knowledge, understanding and skills required to contribute to the management of the frail patient

Knowledge and understanding

- Demonstrate an ability to recognise frailty
- Formulate individual patient management plan based on assessment of frailty as well as clinical need
- Describe the impact of activities of daily living on long-term conditions (eg impact of a notifiable condition on driving) and provide information/discuss these with the patient and carers
- Early engagement with the multidisciplinary team
- Understand the impact of increasing age, weight loss and frailty on drug pharmacokinetics and pharmacodynamics

Clinical skills

- Perform a comprehensive frailty assessment using a recognised scoring system (including consideration of dementia)

13. Discharge planning

Outcomes

- Demonstrate the knowledge, understanding and skills required to contribute to discharge planning

Knowledge and understanding

- Demonstrate a clear, timely, legible discharge summary that identifies principal diagnoses (including complications, mental health, key treatments/interventions, discharge medication and follow-up arrangements)
- Engage with colleagues from the MDT including other allied healthcare professionals using local discharge criteria

14. Management of the dying patient

Outcomes

- Demonstrate the knowledge, understanding and skills required to manage the transition from life to death (including palliation of symptoms, and the discussion of resuscitation status and organ donation)

Knowledge snd understanding

- Awareness of the public debate around resuscitation, palliative care and organ donation
- Discussion of best interests (including resuscitation status and ceiling of care) with patient advocate

- Awareness of the role of the coroner and legal implications following surgery and referral
- Knowledge of the clinical and legal frameworks for DNACPR decision making, end-of-life care and RESPECT
- Awareness of safe and effective use of syringe pumps in the palliative care setting

Clinical skills
- Identify patients with limited reversibility of their medical condition, and determine palliative and end-of-life care needs
- Identify the dying patient and develop an individualised care plan
- Able to manage non-complex symptom control (including pain)
- Facilitate referrals to specialist palliative care
- Demonstrate effective consultation skills in challenging circumstances
- Demonstrate compassionate professional behaviour and clinical judgement

15. Management of the vulnerable patient

Outcomes
- Demonstrate the knowledge, understanding and skills required to safeguard and care for vulnerable groups

Knowledge and understanding
- Recognise and take responsibility for safeguarding children, young people and adults, using appropriate systems for identifying and sharing information, recording and raising concerns, obtaining advice and taking action
- Understand the professional responsibilities in relation to procedures performed on minors for non-medical reasons
- Knowledge of and how to apply the mental capacity legislation in clinical practice, to protect the safety of individuals and society
- Identify, assess and manage suicide risk
- Understand the needs of and support required for people with learning disabilities
- Understand positive behavioural support, and determine when and how to safely restrain and safeguard vulnerable adults in distress
- Recognise where addiction (to drugs, alcohol or smoking), obesity, environmental exposure or social deprivation issues are contributing to ill health and act on this information
- Apply appropriate equality and diversity legislation (including disability discrimination requirements) in the context of patient care
- Identify and escalate concerns about modern slavery and human trafficking to appropriate authorities

16. Outpatient department practice

Outcomes
- Develop the knowledge, understanding and skills required to contribute to the management of outpatients

Knowledge and understanding
- Common systems employed for the identification of presentations pertinent to the surgical specialty (including presentation, management and complications)
- Prioritisation of diagnosis and patient management
- Infection – diagnosis and early management
- Basic science (including anatomy, physiology, pharmacology, radiology) relevant to the management of patients
- Clinical presentation and pathology of common conditions (including awareness of red flags pertinent to specialty/patient group)
- Principles of management of patients with common conditions
- Principles of neoplasia (including metastases)

To include the assessment and management of the presentations/conditions specific to the surgical specialty.

Clinical skills

- Assess and plan the investigation of new and follow-up patients in elective outpatient clinics
- Manage patients in the outpatient setting
- Demonstrate professional behaviour with regard to patients, carers, colleagues and others
- Deliver patient centred care (including shared decision making)
- Demonstrate effective consultation skills
- Formulate an appropriate diagnostic and management plan, taking into account patient preferences
- Explain clinical reasoning behind diagnostic and clinical management decisions to patients/carers/guardians and other colleagues
- Appropriately manage comorbidities in the outpatient clinic
- Demonstrate awareness of the quality of patient experience
- Demonstrate knowledge and understanding of and interpretation of investigations specific to the specialty
- Consent process (including providing non-surgical options, explaining surgical procedures, discussing benefits and risks of surgery, and listing for theatre)

17. Core critical conditions in surgery

Outcomes

- Demonstrate knowledge and understanding of the principles of emergency management of the following critical surgical conditions:
  - Acute abdomen (including assessment, differential diagnosis, operative and conservative treatment)
  - Strangulated/obstructed hernia
  - Intestinal ischaemia
  - Intestinal obstruction (including small and large bowel obstruction)
  - Postoperative haemorrhage (including different operative sites such as neck surgery)
  - Acute gastrointestinal haemorrhage (including both upper and lower gastrointestinal bleeding)
  - Blunt/penetrating abdominal injury (including physiological response, and management of blunt and penetrating injury)
  - Necrotising fasciitis – includes other severe soft tissue infections (eg diabetic foot infection)
  - Multiple trauma
  - Septic arthritis
  - Spinal cord compression
  - Sepsis (including recognition and management)
  - Anastomotic leak (including large bowel and small bowel anastomotic leak)
  - Acute colitis/toxic megacolon
  - Faecal peritonitis
  - Biliary sepsis (including all causes and their management)
  - Acute pancreatitis
  - Oesophageal perforation
  - Upper gastrointestinal anastomotic leak
  - Ruptured abdominal aortic aneurysm
  - Acute limb ischaemia
  - Compartment syndrome
  - Acute aortic dissection
  - Diabetic foot sepsis

18. Professional skills

18.1 Professional behaviour

Outcomes

- Demonstrate appropriate generic professional knowledge and understanding, skills and capabilities underpinned by appropriate values and behaviours:
  - » Acting with honesty and integrity
  - » Maintaining trust by showing respect, courtesy, honesty, compassion and empathy for others, including patients, carers, guardians and colleagues
  - » Treating patients as individuals, respecting their dignity and ensuring patient confidentiality
  - » Taking prompt action where there is an issue with the safety or quality of patient care, raising and escalating concerns where necessary
  - » Demonstrating openness and honesty in your interactions with patients and employers (known as the professional duty of candour)
  - » Being accountable as an employee to your employer and working within an appropriate clinical governance framework
  - » Managing time and resources effectively
  - » Being able to self-monitor, and to seek appropriate advice and support in order to maintain your own physical and mental health
  - » Demonstrating emotional resilience
  - » Demonstrating situational awareness
  - » Reflecting on your personal behaviour and its impact on others
  - » Demonstrating awareness of your own behaviour, particularly where this might put patients or others at risk
  - » Demonstrating awareness of your own limitations, and understanding when and whom to refer on to or whom to seek professional advice from
  - » Interacting with colleagues in a way that demonstrates appropriate professional values and behaviours, in terms of supporting colleagues, respecting difference of opinion and working as a collaborative member of a team
  - » Being able to identify and create safe and supportive working and learning environments
  - » Listening to patients, carers and guardians, and accepting that they have insight into, preferences for and expertise about the patient's own condition and context
  - » Working within appropriate equality and diversity legislation
  - » Working within appropriate health and safety legislation
  - » Demonstrating a commitment to learn from patient safety investigations and complaints
  - » Working within appropriate governance structures including investigation of serious untoward incidents
  - » Maintaining your continuing professional development, and completing relevant statutory and mandatory training
  - » Demonstrating an ability to learn from and reflect on your professional practice and clinical outcomes
  - » Being able to accept constructive and appropriately framed criticism
  - » Being a professional role model

- Demonstrate practical skills to provide safe and effective care:
  - » Literacy
  - » Numeracy
  - » Articulation of and ability to give clear, accurate and legible written instructions in English
  - » Ability to give clear, accurate and comprehensible verbal instructions in English
  - » Ability to make clear, accurate and contemporaneous records of observations or findings in English
  - » Ability to demonstrate a clear and appropriate knowledge of the legal aspects of digital and written records

  - » Ability to demonstrate an appropriate knowledge of information governance, data protection and storage
  - » Ability to demonstrate appropriate IT skills (including word processing and data collection)
  - » Personal performance, complaints and medical error

Knowledge and understanding

- Identify factors that influence personal performance and their impact on patient care, which include:
  - » Understanding the risks to patients if personal performance is compromised
  - » The effects of stress and fatigue on performance (personal or of others), with actions to minimise its impact, along with sources of help
  - » How medications that they may be taking can reduce personal performance
  - » Why health problems (personal or of others) must not compromise patient care, or expose colleagues or patients to harm
  - » The need to report personal health problems in a timely manner and awareness of the support services available
  - » Taking responsibility for personal health and performance (eg by reporting sickness absence in a timely manner and completing return to work documentation as required)
  - » Notifying appropriate individuals (and arranging cover where applicable) for planned or unexpected absences and seeking appropriate support regarding health or emotional concerns that might affect personal performance
- Understand the management of complaints:
  - » Define the local complaints procedure
  - » Recognise factors likely to lead to complaints (poor communication, dishonesty etc) and adopt behaviour that is likely to prevent complaints
  - » Outline the principles of an effective apology
  - » Identify sources of help and support when a complaint is made about yourself or a colleague
  - » Contribute to a fair and transparent culture around complaints and errors
  - » Describe the role of human factors in medical errors and take steps to minimise these
  - » Describe ways of identifying poor performance in colleagues and how to support them
  - » Recognise the impact of complaints and medical errors on staff, patients and the NHS

18.2 Leadership and management

Outcomes

- Demonstrate the capability to lead and work effectively in a team:
  - » Demonstrate leadership by example, working to the highest standards of the appropriate professional regulatory body, and demonstrating a clear understanding of local and national policy regarding professional standards
  - » Promote an ethos of ethical, holistic, patient focused care and support, and educate junior staff to achieve this goal throughout the hospital setting
  - » Continually develop practice and improve patient safety through engaging with clinical audit, service evaluation and quality improvement methodologies
  - » Lead new practice and service redesign solutions in response to feedback, evaluation and need, working across boundaries and broadening sphere of influence
  - » Develop effective relationships, fostering clarity of roles within teams to encourage productive working
  - » Negotiate an individual scope of practice within legal, ethical, professional and organisational policies governance and procedures, with a focus on risk management and patient safety
  - » Manage change and promote quality care provision, demonstrating professionalism and effective communication

» Demonstrate understanding and implementation of redesign of delivery of sustainable healthcare services

18.3 Education

Outcomes

- Demonstrate and understand the principles of education, teaching and training:
  - » Critically assess and address own learning needs, negotiating a personal development plan that reflects the breadth of ongoing professional development across the four pillars of advanced practice
  - » Demonstrate the ability to identify wider team developmental needs recognising appropriate learning opportunities to support and address need
  - » Advocate for and contribute to a culture of departmental/organisational learning to inspire future and existing staff
  - » Act as a role model, educator, supervisor and coach seeking to instil and develop the confidence of others

18.4 Research capabilities

Outcomes

- Demonstrate knowledge, understanding and application of the principles of research:
  - » Provide evidence of knowledge and understanding of research and audit processes
  - » Demonstrate the ability to engage in research activity, adhering to good research practice guidance
  - » Demonstrate the ability to:
    - assess the need for, plan and lead clinical audit to manage risk and manage quality issues relating to surgical patients
    - critically appraise and synthesise relevant research, evaluation and audit to underpin own practice, and to identify the potential need for further research
    - disseminate best practice research findings through appropriate forums

Syllabus: Phase 2

1. Cardiothoracic surgery

Outcomes

- Acquire experience of the management of cardiothoracic surgical patients in the operating theatre, critical care and ward environments (including elective and emergency practice)

Knowledge and understanding

- Understand and have a working knowledge of the surgical anatomy of the chest (in particular the heart, lungs and mediastinum)
- Understand and have a working knowledge of the pathophysiology of common cardiothoracic conditions
- Understand and the working knowledge of the science, technology and practical applications of cardiopulmonary bypass, myocardial protection and circulatory support (including the intra-aortic balloon pump, extracorporeal membrane oxygenation and ventricular assist devices)

To include the assessment and principles of management of the following common conditions:

- Coronary artery heart disease
- Valvular heart disease
- Thoracic aortic conditions
- Bronchogenic carcinoma
- Benign conditions of the chest (including obstructive airway disease)
- Disorders of the mediastinum

Clinical skills

- Undertake assessment of the cardiovascular system, and demonstrate history and assessment skills, identifying the correct tests to help elucidate the differential diagnoses:
  - » Recognise and manage acute cardiac failure
  - » Recognise and manage acute myocardial infarction
  - » Recognise and manage acute respiratory failure
- Assessment, interpretation and management of electrolyte values including:
  - » potassium
  - » sodium
  - » calcium
  - » magnesium
  - » phosphate
  - » interpretation of full blood count and coagulation screens
  - » interpretation of 12-lead electrocardiogram
  - » knowledge of the indication for cardiac enzyme tests and interpretation of results
- Assessment and early management of the postoperative cardiothoracic surgical patient (including use of haemodynamic monitoring, and inotropes and vasoactive drugs)
- Echocardiography including transoesophageal echocardiography
- CT and MRI
- Assessment and planning the investigation of new and follow-up patients in cardiothoracic surgery outpatient clinics
- Pre/postoperative clinics and wound clinics
- 24-hour theatre and intensive care unit/ward on-call service
- Ordering and interpretation of invasive and non-invasive investigations

Technical skills and procedures

DOPs

- First and second assistant for all major/minor cardiothoracic surgery
- Use of a defibrillator

- Arterial cannulation
- Central venous cannulation
- Chest aspiration
- Chest drain insertion and management
- Removal of pacing wires

PBAs
- Opening/closing of sternum and chest wall (thoracotomy)
- Conduit harvesting (long saphenous vein and radial artery)
- Insertion and removal of intra-aortic balloon pump

2. Neurosurgery

Outcomes
- Acquire experience of the management of neurosurgical patients in outpatients, critical care and ward environments

Knowledge and understanding
- Clinical neuroanatomy of the central and peripheral nervous systems including cranial and spinal anatomy
- Physiology of intracranial pressure, cerebrospinal fluid circulation and intracranial blood flow
- Physiology of the pituitary gland
- Pathophysiology of spinal biomechanics and nerve root compression syndromes
- Principles of the management of subarachnoid haemorrhage, intracranial infection, hydrocephalus, head injury and cranial space occupying lesions
- Principles of the management of cauda equina syndrome, malignant spinal cord compression, spinal trauma and degenerative spinal disease.
- Pharmacology of common neurosurgical drugs including those used in tumours, epilepsy, intracranial hypertension and trauma

To include the assessment and management of the following presentations/conditions:
- Space occupying lesions from haemorrhage, infection and tumours
- Impaired consciousness
- Seizures
- Spinal and cranial trauma
- Shunt malfunction and hydrocephalus
- Back pain with and without urinary symptoms
- Spinal nerve root compression syndromes

Clinical skills
- Undertake assessment of the central and peripheral nervous systems, and demonstrate history, examination and assessment skills, identifying the correct tests to help elucidate the differential diagnoses:
  - » Demonstrate the ability to relate findings to the clinical situation and identify management strategies
  - » Demonstrate an understanding of appropriate referral processes for specialist intervention and evaluate outcomes
  - » Interpretation of cranial and spinal imaging including CT, MRI and plain x-rays CT
  - » Contribution to the trauma team as a neurosurgical representative
  - » Assessment and planning of the investigation of new and follow-up patients in neurosurgical outpatient clinics
  - » Assessment and early management of the acutely unwell neurosurgical patient

Technical skills and procedures

DOPs
- Lumbar puncture and the insertion of lumbar drains

- Sampling of cerebrospinal fluid and administration of intrathecal antibiotics through lumbar
- drains, shunts and external ventricular drains
- Assessment, adjustment and maintenance of halo cervical spine fixators
- Application of cervical collars
- Tracheostomy care
- Fundoscopy
- Removal of intracranial and sub-galeal surgical drains and ICP monitors

3. Oral and maxillofacial surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of oral and maxillofacial surgical patients in elective and emergency settings

Knowledge and understanding

- Anatomy of teeth and supporting structures
- Principles of the management of odontogenic cysts and impacted teeth
- Principles of the management of premalignant and malignant conditions affecting the head and neck
- Patterns and management principles of facial fractures
- Principles of the management of dentoalveolar trauma
- Principles of the surgical management of dentofacial sepsis

To include the assessment and management of the following presentations/conditions:

- Benign and malignant lesions of the mouth and tongue

Clinical skills

- Assessment of patients presenting with dentoalveolar and intraoral mucosal signs and symptoms
- Assessment of skin lesions of the head and neck
- Assessment and immediate management of dentoalveolar trauma
- Interpretation of craniofacial radiological investigations

Technical skills and procedures

DOPs

- Closure of simple facial lacerations (including full thickness lip and eyelid lacerations)
- Application of intermaxillary fixation
- Surgical airway care (including changing tracheostomy)

4. Otolaryngology

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of otolaryngological patients presenting in elective and emergency settings

Knowledge and understanding

Head and neck

- Anatomy and embryology of the head and neck (including oral cavity and dentition)
- Physiology of swallowing and speech
- Microbiology of head and neck
- Aetiology, presentation, differential diagnosis and management of:
  - » infections of the head and neck
  - » inflammatory disorders of the head and neck
  - » neoplasms of the head and neck
  - » trauma of the head and neck
  - » neck lumps (including salivary gland and thyroid disease)
  - » voice and swallowing disorders

Otology
- Anatomy and embryology of the ear
- Physiology of hearing and balance
- Aetiology, presentation, differential diagnosis and management of:
  - infections of the ear
  - ear trauma (including skull base trauma)
  - hearing loss, tinnitus and vertigo
  - facial palsy

Rhinology
- Anatomy and embryology of the nose and paranasal sinuses
- Microbiology of the nose and paranasal sinuses
- Nasal physiology (including olfaction)
- Aetiology, presentation, differential diagnosis and management of:
  - epistaxis
  - infections of the nose and paranasal sinuses
  - inflammatory disease of the paranasal sinuses
  - neoplasms of the nose and paranasal sinuses
  - trauma to the nose and paranasal sinuses

To include the assessment and management of the following presentations/conditions:
- Benign and malignant lesions of the mouth and tongue
- Lumps in the neck
- Epistaxis
- Upper airway obstruction

Clinical skills
- Take an appropriately focused clinical history
- Perform a full ear, nose and throat examination
- Assessment and initial management of facial trauma (including fractured nose)
- Assessment and initial management of epistaxis
- Perform a structured visual assessment – rhinology
- Assessment and planning the investigation of patients presenting with a neck lump
- Recognise the clinical signs of airway obstruction and respiratory distress in adults
- Interpret audiological investigations
- Manage acute airway compromise (including the importance of a team approach)
- Interpret head and neck CT and MRI
- Initial assessment and management of patients presenting with:
  - epistaxis
  - acute tonsillitis and peritonsillar abscess
  - hearing loss
  - facial palsy
  - facial trauma
  - foreign body
  - dysphagia
- Balance testing
- Particle repositioning procedures

Technical skills and procedures

DOPs
- Otoscopy
- Nasal examination with speculum
- Flexible nasendoscopy
- Nasal packing (anterior and posterior)
- Removal of nasal packing
- Otomicroscopy and removal of foreign bodies

5. Plastic and reconstructive surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of plastic surgery patients presenting in elective and emergency settings

Knowledge and understanding

- Principles of management in hand trauma
- Principles of management in thermal injury (including an understanding of respiratory injury)
- BAPRAS/BOA guidelines on management of lower limb trauma
- Principles of management of complex or contaminated wounds involving both conservative and operative management
- An appreciation of the breadth of conditions encountered in the elective practice of plastic surgery

Clinical skills

- Assess and initiate the management of burns and scalds in children and adults (including assessment of severity)
- Assess the airway in thermal injury
- Fluid resuscitation following thermal injury, informed by standard protocols
- Assess, diagnose and formulate a management plan for hand trauma cases
- Resuscitation of a patient suffering from thermal injury
- Assessment and planning the investigation of new and follow-up patients in plastic surgery outpatient clinics
- Assessment and initial management of cases of lower limb trauma involving compound fractures with soft tissue damage, skin loss, major nerve and/or vessel injury
- Assess and initiate treatment for the complex or contaminated wound
- Diagnose skin lesions (including skin malignancy)

Technical skills and procedures

DOPs

- Excision and closure of simple skin lesions
- Debridement of contaminated or infected wounds
- Change of burns dressings

6. Trauma and orthopaedic surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of patients with significant musculoskeletal trauma
- Gain exposure to elective orthopaedic surgery

Knowledge and understanding

- Common systems employed for the identification of important fracture subtypes to a level sufficient to allow contribution to discussions about their management at trauma meetings
- Common fracture patterns of upper and lower limbs and spine (presentation, management and complications)
- Prioritisation of the multiply injured patient
- Soft tissue injuries (including compartment syndrome, open fractures, cauda equina syndrome, peripheral nerve injury) – diagnosis and early management
- Musculoskeletal infection – diagnosis and early management
- Basic science (including anatomy, physiology, pharmacology, radiology) relevant to the management of patients with common elective orthopaedic conditions
- Clinical presentation and pathology of common orthopaedic conditions
- Principles of management of patients with common orthopaedic conditions
- Principles of musculoskeletal neoplasia (including skeletal metastases)

To include the assessment and management of the following presentations/conditions:
- Traumatic limb and joint pain and deformity
- Chronic limb and joint pain and deformity
- Back pain
- Simple fractures and joint dislocations
- Fractures around the hip and ankle
- Basic principles of degenerative joint disease
- Basic principles of inflammatory joint disease (including bone and joint infection)
- Compartment syndrome
- Spinal nerve root entrapment and spinal cord compression
- Metastatic bone cancer
- Common peripheral neuropathies and nerve injuries

Clinical skills
- Undertake assessment of the musculoskeletal system:
  - » Inspect the limb/joint, identifying normal and abnormal findings (eg muscle wasting, deformity, swelling, posture, symmetry, scars)
  - » Examine range of movement and strength of the appropriate area: active and passive, isometric and isotonic
  - » Identify the necessity for and perform an appropriate spinal examination in addition to a peripheral joint examination
  - » Palpation: joint line, heat, inflammation, tenderness, redness
  - » Perform special tests (eg ligament stability of cruciates/meniscus/impingement/tendon) and relate to joint being examined
  - » Identify different causes of pain (eg radicular, articular and referred pain)
  - » Demonstrate professionalism and consideration of the client appropriate to the task with regard to patient handling and communication
  - » Refer for further examination as appropriate – red flags to include progressive neurological symptoms/cancer/cauda equina/infection
- Assessment and planning the investigation of new and follow-up patients in elective orthopaedic surgery outpatient clinics
- Assessment and early management of acutely unwell patients suffering the complications of elective orthopaedic surgery
- Contribution to the trauma team as orthopaedic representative
- Interpretation of radiology of common orthopaedic conditions
- Management of patients in the fracture clinic
- Assessment and early management of acutely unwell patients suffering the complications of musculoskeletal trauma
- Discharge planning of patients with common orthopaedic conditions

Technical skills and procedures

DOPs
- Application of cast and common splints
- Manipulation under anaesthesia
- Insertion of skeletal pin and application of skeletal traction
- Simple abscess incision and drainage
- Injection/aspiration of joints
- Patient positioning, incision/exposure required, common complications and how to avoid these, and postoperative considerations of the following procedures:
  - » Hip arthroplasty
  - » Knee arthroplasty
  - » Open reduction and internal fixation of common fractures
  - » Spinal decompression
  - » Major joint arthroscopy

PBAs
- Trigger-finger release
- Excision of soft tissue lumps
- Carpal tunnel decompression

7. Urology

Outcomes
- Develop the knowledge, understanding and skills required to contribute to the management of urology patients presenting in elective and emergency settings

Knowledge and understanding
- Detailed anatomy of the urogenital tract
- Principles of contemporary urological practice
- Pathophysiology of obstructive uropathy

To include the assessment and management of the following presentations/conditions:
- Loin pain
- Haematuria
- Lower urinary tract symptoms
- Urinary retention
- Renal failure
- Scrotal swellings
- Testicular pain
- Genitourinary malignancy
- Urinary calculus disease
- Urinary tract infection
- Benign prostatic hyperplasia
- Obstructive uropathy

Clinical skills
- Assessment and planning the investigation of new and follow-up patients in urology outpatient clinics
- Assessment and early management of patients suffering from complications of urological surgery
- Assessment and early management of patients with acute testicular pain, urinary retention, ureteric colic and obstructive uropathy
- Assessment and early management of the postoperative urology surgical patient
- A systematic prioritised method of managing the patient with urosepsis
- Contribution to the on-call team as urology representative
- Ability to order and assess relevant haematology and biochemistry tests (including renal function and prostate specific antigen tests)
- Ability to review radiological investigations (CT, MRI, plain x-rays)

Technical skills and procedures
DOPs
- Suprapubic catheterisation
- Ability to insert urethral catheters
- Bladder washout and bladder irrigation
- Perform bladder ultrasonography
- Positioning of patient for urological procedures (Lloyd-Davies/lithotomy, prone, lateral)
- Digital rectal examination and examination of male genitalia
- Laparoscopy – insertion of trocar and pneumoperitoneum - Hassan/Veress/visualised direct entry
- Robot assisted surgery set up and assistance

8. Vascular surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of vascular surgery patients presenting in elective and emergency settings

Knowledge and understanding

- Aetiology, presentation, investigation and management options for aortic aneurysm in the elective setting
- Presentation, investigation and management options for ruptured aortic aneurysm
- Aetiology, presentation, investigation and management options for peripheral arterial disease
- Aetiology, presentation, investigation and management options for varicose veins, venous ulcers and deep venous thrombosis
- Indications for amputation and the risks of surgery
- Principles of rehabilitation after amputation

To include the assessment and management of the following presentations/conditions:

- Peripheral vascular disease
- Amputations
- Aortic aneurysm

Clinical skills

- Assessment and planning the investigation of new and follow-up patients in vascular surgery outpatient clinics
- Assessment and planning the management of patients presenting as emergencies
- Contribution to multidisciplinary team meetings
- Interpretation of CT, magnetic resonance and digital subtraction angiography
- Interpretation of results of duplex ultrasonography, CT, magnetic resonance and digital subtraction angiography (limb ischaemia)
- Clinical assessment of limb arterial supply and venous drainage
- Assessment of patients and planning level of amputation
- Postoperative inpatient care and follow-up after minor and intermediate vascular surgery

Technical skills and procedures

DOPs

- Measurement of ankle–brachial pressure index and lower limb venous circulation using handheld Doppler ultrasonography probe and tourniquet
- Minor toe amputation
- Change of dressing packs

9. General surgery and sub-specialties

9.1 General surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of patients presenting with general surgical conditions in elective and emergency settings

Knowledge and understanding

- Detailed normal anatomy of the abdominal cavity and physiology of digestion
- Understand pre and postoperative management of the general surgical patient
- Aetiology, presentation, investigation and management options for common elective general surgical conditions:
  - » skin and subcutaneous conditions
  - » hernia
  - » reticuloendothelial system

  - » surgical nutrition
- Aetiology, presentation, investigation and management options for common emergency general surgical conditions:
  - » superficial sepsis (including abscess)
  - » acute abdominal pain (including peritonitis, and small and large bowel obstruction)
  - » acute appendicitis
  - » obstructed and strangulated hernia
  - » gastrointestinal bleeding

Technical skills and procedures

DOPs

- Simple abscess incision and drainage
- Wound debridement
- Minor operations: excision of skin lesions, soft tissue lumps and biopsies
- Fine needle aspiration
- Ligation of haemorrhoids
- Assisting with open and laparoscopic cases
- Second assisting with robotics
- Laparoscopy: insertion of primary and secondary trocars
- Laparoscopy: port closure

9.2 Gastrointestinal tract surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of gastrointestinal tract surgery patients presenting in elective and emergency settings

Knowledge and understanding

- Demonstrate knowledge of the gastrointestinal tract to include the assessment and management of the following presentations/conditions:
  - » Reflux
  - » Difficulty swallowing (dysphagia)
  - » Dyspepsia
  - » Gastrointestinal tract causes of anaemia
  - » Haematemesis and malaena
  - » Change in bowel habit
  - » Lower gastrointestinal bleeding
  - » Inflammatory bowel disease
  - » Gastrointestinal tract malignancy
  - » Common proctological conditions

Clinical skills

- Undertake assessment of the gastrointestinal system, and demonstrate history and assessment skills of common gastrointestinal tract conditions
- Indications for and basic interpretation of radiological input: x-ray, CT/MRI (as per local agreement), endoscopy
- Ability to interpret bloods related to gastrointestinal conditions:
  - » Full blood count
  - » Urea and electrolytes
  - » Liver function tests

Technical skills and procedures

DOPs

- Insertion of nasogastric tubes ensuring correct placement based on local guidelines, recognising indications and contraindications:
  - » Nasogastric tube for feeding/digestive decompression
  - » Fine bore feeding tube

- Digital rectal examination
- Laparoscopy – insertion of trocar and pneumoperitoneum – Hassan/Veress/visualised direct entry
- Patient positioning, incision/exposure required, common complications and how to avoid these, and postoperative considerations of the following procedures:
  - Right and left hemicolectomy
  - Laparoscopic colorectal surgery
  - Anterior resection and abdominoperineal excision of the rectum
  - Sigmoid colectomy
  - Ileocaecal resection for Crohn's disease
  - Panproctocolectomy
  - Subtotal colectomy
  - Anal fistula surgery and sphincterotomy
  - Excision of anal skin tags
  - Transanal excision of rectal polyp/tumour
  - Ileoanal pouch surgery
  - Flexible sigmoidoscopy
  - Rigid sigmoidoscopy
  - Bowel resection: small bowel, large bowel with mesentery, Hartmann's procedure and reversal anastomosis

Upper gastrointestinal surgery

- Patient positioning, incision/exposure required, common complications and how to avoid these, and postoperative considerations of the following procedures:
  - Oesophagectomy
  - Gastrectomy
  - Tumour bypass
  - Upper gastrointestinal endoscopy
  - Laparoscopic hernia repair
  - Laparoscopic fundoplication
  - Laparoscopic Heller's myotomy
  - Laparoscopic splenectomy

9.3 Hepatic and pancreatobiliary surgery

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of hepatic and pancreatobiliary tract surgery patients presenting in elective and emergency settings

Knowledge and understanding

- Demonstrate knowledge of the anatomy and physiology of the liver, pancreas and biliary tract
- Understand the aetiology and presentation of disorders of the liver, pancreas and biliary tract to include:
  - gallstones (including biliary colic and cholecystitis)
  - pancreatitis
  - primary and secondary malignancy of the liver
  - primary malignancy of the pancreas and biliary tract
- Understand the role of imaging (ultrasonography, CT, MRI) and interventional endoscopy (ERCP and EUS) in the investigation of a patient with liver, pancreatic or biliary disease
- Understand the use of fluoroscopy, contrast agents and radiation safety according to local practice

Clinical skills

- Undertake clinical assessment of the liver, pancreas and biliary tract in elective and emergency presentations

Technical skills

DOPs

- Patient positioning, port site/exposure required, common complications and how to avoid these, and postoperative considerations of the following procedures:
  - » Laparoscopic cholecystectomy
  - » Pancreatic cancer: tumour resection (Whipple's procedure) and bypass
  - » Liver resection
  - » Upper gastrointestinal endoscopy

9.4 Breast surgery

Outcomes

- Develop the knowledge, understanding and skills required for the assessment and management of patients with breast disease

Knowledge and understanding

- Understand the presentation and possible diagnoses for a patient presenting with breast symptoms
- Understand the approaches to imaging and pathological assessment of breast conditions
- Understand the risk factors, management and basic principles of treatment of benign and malignant breast conditions

Clinical skills

- Undertake clinical examination of the breast and lymph node drainage areas in patients presenting with breast symptoms
- Working in a multidisciplinary team environment

Technical skills and procedures

DOPs

- Fine needle aspiration
- Needle core biopsy
- Punch biopsy
- Seroma aspiration
- Patient positioning, exposure required, common complications and how to avoid these, and postoperative considerations of the following procedures:
  - » Mastectomy with or without reconstruction
  - » Breast conserving surgery with or without oncoplastic procedure
  - » Axillary surgery:
  - » sentinel node biopsy
  - » axillary sampling
  - » axillary dissection

10. Gynaecology

Outcomes

- Develop the knowledge, understanding and skills required to contribute to the management of gynaecology patients presenting in elective and emergency settings

Knowledge and understanding

- Normal anatomy and physiology of the female pelvis
- Detailed normal and altered physiology of the menstrual cycle
- Physiology of reproduction
- Physiology of pregnancy including miscarriage, ectopic pregnancy
- Understand the pre and postoperative management of gynaecology patients

To include the assessment and management of the following presentations/conditions:

- Gynaecological malignancy
- Disorders of the vulva
- Disorders of the vagina (including prolapse)

- Disorders of the cervix (including cervical intraepithelial neoplasia and malignancy)
- Disorders of the uterus (including fibroids, uterine polyps and uterine prolapse)
- Fallopian tube disease
- Ovarian disease (including cysts and endometriosis)

Clinical skills

- Abdominal examination to include assessment of pelvic mass and pregnant uterus
- Assessment and planning the investigation of new and follow-up patients in gynaecology outpatient clinics
- Assessment and early management of patients suffering complications of gynaecological surgery
- Assessment and early management of patients with:
  - » miscarriage
  - » ectopic pregnancy
  - » acute pelvic problems
  - » menstrual problems
  - » fertility problems
- Assessment and early management of the postoperative gynaecology surgical patient

Technical skills and procedures

DOPs

- Suprapubic and urethral catheterisation
- Laparoscopy – insertion of trocar and pneumoperitoneum – Hassan/Veress/visualised direct entry
- Hysteroscopy – in ambulatory setting and under anaesthetic
- Colposcopy – understand indications and under anaesthetic
- Robot assisted surgery set up and assisatance
- Bimanual examination
- Minor surgery:
  - » skin biopsies
  - » removal of cervical polyps
  - » simple uterine polypectomy
  - » Vulval biopsy
  - » dilation of cervix and curettage
  - » Pipelle® biopsy
  - » biopsy of the cervix
  - » Cervical smear
  - » Dilation of the cervix using cervical dilators;
  - » Surgical management of miscarriage;
  - » MVAC;
  - » Endometrial currettage;
  - » Insertion of intrauterine device;
  - » Bartholin abscess (Marsupilization)
  - » Perineal repair – basic

PBAs

- Laparotomy – wound opening and closing to include midline incision and transverse lower abdominal incision (pfanensteil)

11. Robot-assisted surgery

Outcomes

- Demonstrate the minimum theoretical, clinical and technical skills to be able to work within robot-assisted surgery team in the context of the relevant specialty

Theoretical skills (principles of and required level of knowledge)

Refer to specialty's theoretical knowledge in addition to the following:

- Principles of robot-assisted surgery in the specialty
- Principles of relevant robotic operations
- Indications and contraindications for robotic surgery
- Principles of the robotic components:
  - » surgeon console
  - » vision cart
  - » patient cart
- Evidence of successful completion of the robotic medical company's training modules, online and hands on (if applicable)
- Manage postoperative complications of robot-assisted surgery
- Roles and responsibilities as robotic bedside assistance
- Understand anaesthetic management and requirements for patients undergoing robot-assisted surgery
- Knowledge of World Health Organization surgical safety checklist specific to robot-assisted surgery

Clinical skills (principles of and required level of knowledge)

DOPs

Refer to specialty's clinical knowledge required in addition to the following:

- Correct patient positioning for variety of operations
- Demonstrate correct and safe port placement, and knowledge of port placement philosophy
- Robotic docking and de-docking
- Correct positioning of robotic set-up joints and clearance from limbs
- Use of insufflation and desufflation devices
- Minimally invasive camera holding
- Energy devices used compatible with robotic system
- Assist in achieving haemostasis (application of clips and diathermy)
- Assist in removal of specimen
- Wound closure (deep and superficial)

Technical skills (principles of and required level of knowledge)

- Set-up of robotic components in operating theatre
- Troubleshooting
- Teamworking
- Emergency scenarios: cardiac arrest, haemorrhage, system/instrument failure

Appendix 1: Supervised learning events

Purpose of the SLE

The purpose of the supervised learning event (SLE) is to:
- provide immediate feedback, highlight achievement and suggest areas for further development;
- demonstrate engagement in the educational process.

Progression through SLEs

Trainee SCPs are expected to demonstrate improvement and progression in their performance during each stage throughout training. Undertaking and reflecting on SLEs will help them develop their clinical and professional practice.

Timing of SLEs

It is recommended that SLEs are performed throughout the duration of training. SLEs do not need to be planned or scheduled in advance and should occur whenever a teaching opportunity presents itself.

Subject matter for SLEs

SLEs can be used to cover a spread of different acute and long-term clinical problems, and discussion should include the management of long-term aspects of patients' conditions.

Targetted SLEs

Improvement in clinical practice will only happen if regular SLEs lead to constructive feedback and subsequent review of and reflection on progression. For this to occur, some targeted SLEs should specifically be related to previous feedback and developmental targets. This may be facilitated if the trainee SCP agrees to the timing and the clinical case/problem with the trainer in advance. However, unscheduled SLEs can also be focused on specific needs. In addition to immediate feedback, SLEs should be used to stimulate discussion with the CS and/or ES.

Whom to approach for a SLE

It is best to engage with a variety of teachers/trainers for SLEs wherever possible, including consultants. The ES or CS should also be used for a SLE. Teachers/trainers must be sufficiently experienced to teach and assess the topic covered by the SLE, and must be able to provide meaningful feedback.

Responsibility

Trainee SCP
The trainee SCP, with the support of the supervisor(s), is responsible for arranging SLEs and ensuring a contemporaneous record in the portfolio. The CSs and ESs will have access to SLEs in the trainee's portfolio.

Trainer
The trainer must:
- be trained in giving feedback
- understand the role of the tool being used
- be able to teach, assess and provide feedback on the chosen subject

Appendix 2: Exemplar descriptors for Capabilities in Practice

Trainee SCPs are expected to apply syllabus defined knowledge and skills across all capabilities in practice, according to the specialty area in which they are working. It is not anticipated that any element of these capabilities will be acquired to independence during SCP training. Supervision levels have been modified to reflect this.

Undertakes an operating list

Description

Manages all patients with conditions requiring operative treatment in the specialty. Able to perform the administrative and clinical tasks required of a trained SCP in order that all patients requiring operative treatment receive it safely and appropriately.

Example descriptors

- Selects patients appropriately for surgery, taking the surgical condition, comorbidities, medication and investigations into account, and adds the patient to the waiting list with appropriate priority
- Negotiates reasonable treatment options and shares decision making with patients
- Understands informed consent in line with national legislation or applies national legislation for patients who are not competent to give consent
- Arranges anaesthetic assessment as required
- Undertakes the appropriate process to list the patient for surgery
- Prepares the operating list, accounting for case mix, skill mix, operating time, clinical priorities and patient comorbidities
- Leads the brief and debrief, and ensures all relevant points are covered for all patients on the operating list
- Ensures the World Health Organization surgical safety checklist (or equivalent) is completed for each patient at both the beginning and the end of each procedure
- Understands when prophylactic antibiotics should be prescribed and follows local protocol
- Synthesises the patient's surgical condition, the technical details of the operation, comorbidities and medication into an appropriate operative plan for the patient
- Carries out the operative procedures to the required level for the phase of training as described in the specialty syllabus
- Uses good judgement to adapt operative strategy to take account of pathological findings and any changes in clinical condition
- Undertakes the operation in a technically safe manner, using time efficiently
- Demonstrates good application of knowledge and non-technical skills in the operating theatre (including situation awareness, decision making, communication, leadership, and teamwork)
- Writes a full operation note for each patient, ensuring inclusion of all postoperative instructions
- Reviews all patients postoperatively
- Manages complications safely, requesting help from colleagues when required

Undertakes an outpatient clinic

Description

Manages the administrative and clinical tasks required of a trained SCP in order that all patients presenting as outpatients in the specialty are cared for safely and appropriately.

Example descriptors

- Assesses new and review patients using a structured history and a focused clinical examination to perform a full clinical assessment, determines the appropriate plan of action, explains it to the patient and carries out the plan
- Adapts approach to accommodate all channels of communication (eg interpreter, sign language), communicates using language understandable to the patient and demonstrates communication skills with particular regard to breaking bad news, appropriately involving relatives and friends
- Takes comorbidities into account
- Requests appropriate investigations, does not investigate when not necessary and interprets results of investigations in context
- Selects patients with urgent conditions who should be admitted from clinic
- Manages potentially difficult or challenging interpersonal situations (including breaking bad news and complaints)
- Completes all required documentation
- Makes good use of time
- Uses consultation to emphasise health promotion

Undertakes ward rounds and inpatient care (including critical care)

Description

Manages all hospital in-patients with conditions requiring management in the specialty. Able to perform the administrative and clinical tasks required of a trained SCP in order that all inpatients requiring care in the specialty are cared for safely and appropriately.

Example descriptors

- Identifies at the start of a ward round whether there are acutely unwell patients who require immediate attention
- Ensures that all necessary members of the multidisciplinary team are present, knows what is expected of them, and what each other's roles and contributions will be, and contributes effectively to cross-specialty working
- Ensures that all documentation (including results of investigations) will be available when required and interprets them appropriately
- Makes a full assessment of patients by taking a structured history and performing a focused clinical examination, and requests, interprets and discusses appropriate investigations to synthesise findings into an appropriate overall impression, management plan and diagnosis
- Identifies when the clinical course is progressing as expected and when medical or surgical complications are developing, and recognises when operative intervention or reintervention is required, ensuring this is escalated
- Identifies and initially manages comorbidity and medical complications, referring on to other specialties as appropriate
- Contributes effectively to level 2 and level 3 care
- Makes good use of time, ensuring all necessary assessments are made and discussions are held while continuing to make progress with the overall workload of the ward round
- Identifies when further therapeutic manoeuvres are not in the patient's best interests, initiates palliative care, refers for specialist advice as required, and discusses plans with the patient and their family
- Summarises important points at the end of the ward round, and ensures all members of the multidisciplinary team understand the management plans and their roles in them
- Gives appropriate advice for discharge documentation and follow-up

Critical care
- Works with appropriate specialties in the management of critically ill patients, referring on to other specialties as appropriate
- Arranges urgent investigations as necessary and reviews in a timely fashion
- Supports nursing and anaesthetic staff in managing patients
- Communicates appropriately with consultant, nursing and anaesthetic colleagues
- Applies syllabus defined knowledge and clinical skills in all cases
- Carries out syllabus defined practical investigations or procedures within the high dependency and intensive care units
- Exercises good judgement in deciding on management plans and executes these within appropriate timescales

Undertakes an unselected emergency take

Description
Manages all patients with an emergency condition requiring management in the specialty. Able to perform the administrative and clinical tasks required of a trained SCP in order that all patients presenting as emergencies in the specialty are cared for safely and appropriately.

Example descriptors
- Promptly assesses acutely unwell and deteriorating patients, delivers resuscitative treatment and initial management, and ensures sepsis is recognised and treated in compliance with protocol
- Makes a full assessment of patients by taking a structured history and performing a focused clinical examination, and requests, interprets and discusses appropriate investigations to synthesise findings into an appropriate overall impression, management plan and diagnosis
- Identifies, accounts for and manages comorbidity in the context of the surgical presentation, referring for specialist advice when necessary
- Selects patients for conservative and operative treatment plans as appropriate, explaining these to the patient and carrying them out
- Demonstrates effective communication with colleagues, patients and relatives
- Makes appropriate peri and postoperative management plans in conjunction with anaesthetic colleagues
- Delivers ongoing postoperative surgical care in ward and critical care settings, recognising and appropriately managing medical and surgical complications, and referring for specialist care when necessary
- Makes appropriate discharge and follow-up arrangements
- Manages potentially difficult or challenging interpersonal situations
- Gives and receives appropriate handover

Undertakes multidisciplinary working

Description:
Manages all patients with conditions requiring interdisciplinary management (or multi-consultant input) including care in the specialty. Able to perform the administrative and clinical tasks required of a trained SCP in order that safe and appropriate multidisciplinary decisions are made for all patients with such conditions requiring care in the specialty.

Example descriptors
- Appropriately selects patients who require discussion at the multidisciplinary team meeting
- Follows the appropriate administrative process
- Presents relevant case history, recognising important clinical features, comorbidities and investigations
- Identifies patients with unusual, serious or urgent conditions
- Engages constructively with all members of the multidisciplinary team in reaching an agreed management decision, taking comorbidities into account, recognising when uncertainty exists and being able to manage this

- Effectively manages potentially challenging situations such as conflicting opinions
- Develops a clear management plan, and communicates discussion outcomes and subsequent plans by appropriate means to the patient, GP and administrative staff as appropriate
- Manages time to ensure the case list is discussed in the time available
- Arranges follow-up investigations when appropriate and knows indications for follow-up

Core professional values and behaviour

- Demonstrates the importance of personal integrity and honesty
- Exhibits developing trust by showing respect, courtesy, honesty, compassion and empathy for others, including patients, carers, guardians and colleagues
- Takes prompt action where there is an issue with the safety or quality of patient care, raising and escalating concerns where necessary
- Demonstrates openness and honesty in their interactions with patients and employers, including treating patients as individuals, respecting their dignity and ensuring patient confidentiality
- Manages time and resources effectively
- Demonstrates emotional resilience
- Demonstrates situational awareness
- Demonstrates awareness of their own behaviour (particularly where this might put patients or others at risk)
- Demonstrates awareness of their own limitations, and understands when and whom to refer on to or seeks experienced professional advice
- Demonstrates awareness of the behaviour, conduct or health of others (particularly where this might put patients or others at risk)
- Interacts with colleagues in a way that demonstrates appropriate professional values and behaviours in terms of supporting colleagues, respecting difference of opinion and working as a collaborative member of a team
- Able to identify and create safe and supportive working and learning environments
- Shows full awareness of and works within appropriate equality and diversity legislation
- Works within appropriate health and safety legislation
- Demonstrates a commitment to learn from patient safety investigations and complaints

Leadership

- Demonstrates an understanding of why leadership and teamworking is important in their role as a clinician
- Shows awareness of their leadership responsibilities as a clinician, and why effective clinical leadership is central to safe and effective care
- Demonstrates an understanding of a range of leadership principles, approaches and techniques, and applies them in practice
- Demonstrates appropriate leadership behaviour, and an ability to adapt their leadership behaviour to improve engagement and outcomes
- Appreciates their leadership style and its impact on others
- Actively participates and contributes to the work and success of a team (appropriate followership)
- Thinks critically about decision making, reflecting on decision making processes, and explaining those decisions to others in an honest and transparent way
- Supervises, challenges, influences, appraises and mentors colleagues and peers to enhance performance and to support development
- Critically appraises performance of colleagues, peers and systems, and escalates concerns
- Promotes and effectively participates in multidisciplinary and interprofessional teamworking
- Appreciates the roles of all members of the multidisciplinary team
- Promotes a just, open and transparent culture
- Promotes a culture of learning and academic and professional critical enquiry

Education

- Understands that the safety of patients must come first and that the needs of education must be considered in this context
- Provides safe clinical supervision of learners and other doctors in training in the workplace at all times
- Plans and provides effective education and training activities
- Uses simulation or technology enhanced learning appropriately in protecting patients from harm
- Takes part in their own induction and orientation, and that of new staff
- Takes part in patient education
- Respects patients' wishes about whether they want to participate in the education of learners
- Provides supportive developmental feedback to learners, both verbally and in writing
- Creates effective learning opportunities for learners
- Evaluates and reflects on the effectiveness of their educational activities
- Promotes and participates in interprofessional learning
- Assesses the performance of learners objectively and fairly
- Gives timely and constructive feedback on learning activities and opportunities
- Understands how to raise concerns about the performance or behaviour of a learner who is under their clinical supervision
- Participates in national surveys and other quality control, quality management and quality assurance processes as required by the regulator
- Carries out the roles and responsibilities of a clinical trainer
- Meets any regulatory or statutory requirements as a clinical trainer or educator

Research

- Keeps up to date with current research and best practice in their specific area of practice through appropriate continuing professional development activities as well as their own independent study and reflection
- Practises in line with the latest evidence
- Conducts literature searches and reviews to inform their professional practice
- Critically appraises the academic literature
- Understands the role of evidence in clinical practice and demonstrates shared decision making with patients
- Locates and uses clinical guidelines appropriately
- Demonstrates appropriate knowledge of research methods (including qualitative and quantitative approaches in scientific enquiry)
- Demonstrates appropriate knowledge of research principles and concepts, and of the translation of research into practice, including:
  - recruitment into trials and research programmes
  - ethical implications of research governance
- Understands the importance of and promotes innovation in healthcare
- Understands and applies:
  - informatics
  - genomics
  - stratified risk and personalised medicine
- Draws from public health epidemiology and other data sources as well as large scale reviews
- Communicates and interprets research evidence in a meaningful way for patients to support them making informed decisions about treatment and management

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